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METALS

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In This Issue

COPPER — ITS PAST AND FUTURE
By JEAN VUILLEQUEZ, Vice President
American Metal Climax, Inc.

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By JOSEPH C. McCASKILL
U.S. Department of Interior

DOMESTIC METAL MARKET REVIEW

WASHINGTON REPORT

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TWO LINE *Editorials*

Some of the Russian workers must find it hard to understand why they are being constantly urged to "catch up" with the United States when their leaders keep telling them they are already ahead of us.

* * *

Maybe it's true that "the good old days" were not as good as we remember them—but did Grandpa ever have to worry about the danger of absorbing too much Strontium 90?

* * *

A popular science writer says that within a few years people will be standing in line to buy tickets to the moon. We won't be in the line, however, until they start selling guaranteed round-trip tickets.

* * *

The medical profession, it is announced, plans "an all-out revolutionary attack on the common cold." Well, that's one kind of cold war we can approve of heartily.

* * *

As matters stand now, Mr. Nixon seems to have won the vote of Poland, but Mr. Rockefeller should have Norway safely sewed up.

* * *

Republican leaders say they are planning to get "a bigger slice of the Democratic vote" in 1960. Maybe they should also try to get more of the Republican vote.

Washington Report

September 18, 1959

CONGRESS last month finally completed action on a resolution designed to aid the domestic mining industry. The resolution (H. Con. Res. 177) requests the President "to have reviews made at once of the existing programs of the departments and agencies of the Executive Branch with the purpose of using them more effectively to provide for increased production and employment in critically depressed domestic mining and mineral industries."

The resolution, which was submitted by Chairman Wayne Aspinall (Dem., Colo.) of the House Interior Committee, also asks the President to advise Congress at the earliest possible date as to the actions taken or proposed to be taken to this end and to submit any reorganization plans or recommendations that may be necessary to accomplish this objective.

"It is the sense of the Congress," the resolution states, "that the maintenance and development of a sound and stable domestic mining and minerals industry, without critical dependence upon foreign sources, is essential to national security and the welfare of the consuming public and that this objective is independent of and cannot be accomplished by the maintenance of national stockpiles for planned defense needs in a single emergency or the existence of productive capacity based upon the importation of foreign materials."

Senate Approves Bill

Another measure of interest to the mining industry (S. 1537) was approved by the Senate just before adjournment. This bill while it does not provide quick aid does prepare the way for later legislation designed to carry out the objectives of the bill — establishment of a national minerals policy to insure an economically sound domestic mining industry. Along that line it makes the Secretary of Interior responsible for carrying out the policy and requires him to make an annual report to Congress on the state of the domestic mining and mineral industry, including recommendations for any legislation which may be needed. The Senate bill was sponsored by Gordon Allott (Rep., Colo.).

In accordance with a previous Senate Resolution (162), adopted August 21, 1959, the Tariff Commission, which has instituted a general investigation of the domestic lead and zinc industry, will hold public hearings in Washington starting January 12, 1960. A prior investigation of the lead and zinc industry was made in 1954.

Senate Resolution 162 directs the commission to make a further investigation along the lines of the previous probe and to submit a supplemental report to Congress on or before March 31, 1960, bringing the 1954 report up to date. It also directs that the supplemental report shall include specific findings of the commission with regard to the current condition of the lead and zinc mining industries and as to what additional import restrictions, if any (by way of increased duties or import quotas, or both), need to be imposed.

Seaton Sees Quotas Unchanged

Secretary of Interior Fred Seaton told a press conference during the month that he did not expect any change in the present lead and zinc import quota system in the foreseeable future.

The Secretary said he has reason to believe the "quota system is making itself felt" and that he is "satisfied that there will be an adjustment in zinc prices after the end of the steel strike." He said that while he welcomes the Tariff Commission probe, he feels the zinc industry "will have to explain the increase in production and the increase in price for the metal which occurred since the quotas were imposed." He pointed out that from October, 1958 to July 1959 workers in the lead-zinc mining industry had increased by 19 per cent. He said he is willing to study the quota program on a continuing basis and will improve it if possible.

6 Companies Ask Change

Six companies that are engaged in smelting and refining lead in the United States and which in terms of employment, investment, production and sales, constitute a substantial portion of the industry, had presented a joint statement before the United States Department of Commerce opposing the present U. S. import quotas on lead and zinc and recommending that the quotas be rescinded and replaced by increases in the appropriate customs duties. The companies that presented the joint statement are: American Smelting and Refining Company; American Zinc Lead and Smelting Company; Athletic Mining and Smelting Company; Blackwell Zinc Company, Inc.; Matthiessen and Hegeler Zinc Company and National Zinc Company, Inc.

Stockpile Disposals Delayed

Stockpiling again was in the news last month when it was disclosed that the Government plans to hold on to over $3,000,000,000 worth of metals and minerals now considered surplus to emergency needs until a new study of atomic war effects is completed.

J. Roy Price, Assistant Director of the Office of Civil Defense Mobilization, disclosed the decision in a speech to the American Mining Congress in Denver. The study of stockpile needs following a nuclear attack is expected to take another year to complete, he said.

The official indicated he believed the study would show that at least some of the materials now surplus to war needs could be valuable in the event of an atomic attack. OCDM studies show, he asserted, "The strategic materials in the stockpile will have a major role after nuclear attack."

The Federal stockpile — which Mr Price says is worth over $7,000,000,000 today — is an inventory of metals and minerals designed to meet military and civilian needs during an emergency of up to three years. It is an emergency source of material that the Government owns but would use only in war.

"When it comes to nuclear war involving an attack on the United States there is no unanimity within the Government about what size the stockpile should be," Mr. Price declared.

He made clear that stockpile plan-

(Continued on Page 16)

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tin-bearing material
automobile radiators

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AMAX

Past and Future of

Copper Production and Consumption

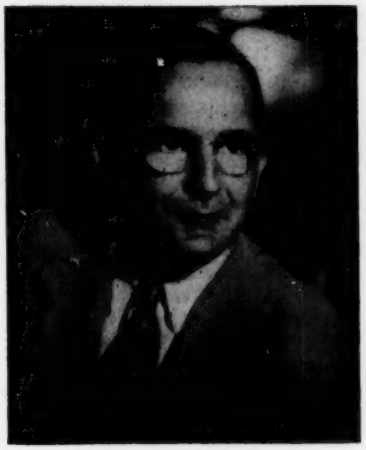
By JEAN VUILLEQUEZ, Vice President, American Metal Climax, Inc.

IN CHOOSING our period of the past production and consumption of copper we, of course, encountered difficulties of direct comparison. If we take the period 1925 to 1958 we include the boom of the late 20s, the deep and lengthy depression of the early 30s, preparations for war in Europe and Japan before 1940, and the greatly expanded use of copper for war purposes during World War II. If we take a longer period starting with, say, 1900 we will show a more rapid growth of consumption in the United States in relation to the rest of the world. We think the recent period 1947 to 1958 is more amenable to approximate comparison with the next decade even though it includes reconstruction in the war ravaged countries. These countries, therefore, show a much greater rate of growth than the United States which was spared war destruction.

Over the period 1947 to 1958 mine production of copper in the world, exclusive of Iron Curtain countries, increased from about 2,500,000 tons in 1947 to 3,250,000 tons in 1958. This is an increase of about 44% during a period which began about a year after the end of the most destructive war in history and ended in a year of recession in the United States.

Available statistics of consumption of copper represent deliveries of refined copper to fabricators. This consumption increased by about 45%. The rate of growth of consumption varies country by country. While consumption in the United States showed very little change—in fact a moderate decline due to the 1958 recession—the growth outside of the United States was about 117%.

Since the end of World War II there have been a number of periods during which copper was in short supply. This shortage was due partly to purchase for national stockpiles, especially in the United States, partly to periods when price ceilings reduced production and imports, and partly to reductions in production chiefly due to labor problems. All of these factors reduced supplies to consumers and some of them eventually increased prices excessively. Consumers were discouraged



JEAN VUILLEQUEZ

and tried to find substitute materials.

The substitutions for copper which resulted from conservation measures adopted during World War II and Korea are difficult to regain. In the United States the products of brass mills, copper alloys and straight copper products, suffered badly. However, the use of copper for electrical purposes increased about as fast as industrial production as reported by the Federal Reserve index.

Growth of Consumption

Like many other companies in the industry, we try to estimate the future growth of copper consumption. We do this with the full knowledge that such projections are subject to substantial error. We use the figures as a guide to rather than as an exact tool for business decisions. Even then we use them with trepidation and great care. Nevertheless we find them useful even if partly conjectural. Our present projections indicate that by 1970 the annual consumption of refined copper in the world, exclusive of the Iron Curtain, may well increase by about 2,000,000 tons or by more than 50% of the present consumption.

While consumption of copper in the United States has not shown significant overall growth in the last decade, it would be a mistake, in my opinion, to assume a similar pattern in the future. We see no reason to question the continued substantial growth of copper in the United States for electrical purposes and see a number of reasons why the past reduction in use of brass mill products has been arrested and indeed should change to reasonable growth.

The growth in the United States may be about 30%; thus most of the increase we believe will be outside of the United States chiefly in the principal industrial countries such as Belgium, Canada, France, Italy, Japan, the United Kingdom and West Germany. We consider our estimates conservative. We cannot foretell the much greater rate of growth which I believe is bound to occur in underdeveloped countries. We do not include Iron Curtain countries whose future consumption needs we cannot estimate but which, to my mind, will also increase substantially. Whether these increased needs will be met by ther own production or by imports from the West can only be surmised. It should be noted, however, that in recent years the Iron Curtain has purchased copper from the West and at present is interested in purchasing additional quantities.

An estimated overall growth of 50% in about eleven years is certainly not spectacular. Copper is needed in most new products and technological developments; but it is not a new metal, it was used before the Bible, and our estimate of its growth does represent a good steady rate of about 3¾% per annum compounded annually.

Capacity to Increase

If our projections of consumption increases are reasonably accurate, production capacity will have to increase substantially. According to our production forecasts the mine production capacity by 1963, here and abroad, will increase by about 600,000 tons. This is after deducting the output of mines whose ore reserves are expected to become exhausted. This figure includes the Ray, Esperenza, Christmas mines and Asarco's East Pima property. It includes increases in Canada; the El Salvador, Mantos Blancas and Rio Blanco mines in Chile; Toquepala in Peru; Mufulira, Bancroft and Katanga increases in Africa and finally increases in Europe, Asia and Mt. Isa in Australia. This increase in production capacity of 600,000 tons by 1963 appears to be keeping good pace with

Text of address delivered Sept. 14, 1959 before American Mining Congress in Denver.

our projections of an increase in consumption of 2,000,000 tons by 1970. A part of the additional 1,400,000 tons needed by 1970 will come from an increase in the supply of scrap, and from increases in the capacity of present and planned mining operations. But a good part will have to come from new discoveries or from old discoveries uneconomic under present conditions.

I am confident that this additional copper will be found and produced although I don't know what price will be required to encourage its production. I think it will have to be higher than 30 cents per pound unless, of course, a huge new very low cost copper area is discovered. The location of new mines, type of orebody and grade of ore will, of course, play an important part in the capital cost of new discoveries. As you gentlemen know better than I these capital costs can vary substantially. According to our estimates the capital cost for recent expansion programs has varied from about $500 to about $2,000 per ton of annual capacity.

The capital cost for new copper mines or projects has ranged from about $750 to about $2,500 per ton of annual capacity. In some cases the costs are through the milling stage only, in others a smelter is included and some provide for a smelter and refinery. But even through the same stage of beneficiation the capital costs vary widely. These costs are not on the way down and the price of copper will have to reflect them, and the other costs of producing, financing and distributing copper, plus a profit on the investment.

Position of Prices

Much has been said about the volatility of the price of copper. In the past it appears that relatively small excesses of production or deficiencies in supply resulted in wide price swings. Undeniably such price fluctuations have been a deterrent to the growth of consumption. However, some of the past price fluctuations were due to causes beyond the control of the industry.

Over a period of years the copper price on average has not been too high, in my opinion, even though it has fluctuated widely. The period 1953 to 1958 may be representative since it included a year of very high prices and two years of recession. During this period the E&MJ price for domestic copper delivered buyers' plants averaged 32½ cents per pound. This is the mean of the six annual averages which showed a low of about 26⅛ cents in 1958 and a high of about 48⅛ cents in 1956. The low was too low and the high was too high—one of the problems of the industry is whether and, if so, how these boom or bust price gyrations can be avoided.

It is, of course, impossible to foretell what conditions the world's copper industry may face during the next decade. However, I do believe that the money will be found in order to satisfy the great desire of the world's people for better transportation, communications and housing and for appliances, all of which are copper's best customers. It seems to me that the remarkable increase in industrial production in foreign countries and their favorable balance of payments demonstrates that they have the ability to pay for an increased standard of living. Progress in the United States may be at a slower rate but we are advancing from a much higher plateau.

The essential ingredients to continued growth in copper consumption are there but we must find the right recipe if we are to produce a palatable future. Above all, we must try to avoid exaggerated prices, what might be termed the delectable repast of disastrous inflation, which inevitably produce depression prices. Copper must minimize shortages that stunt its growth and overproduction that discourages the capital needed for long term development. We must improve our knowledge of the market, first to ascertain exact end uses, and next, to see that they stay with copper. We must apply to copper the well-known techniques of merchandising which are essential to assure the continued growth of any industry. Copper must consistently and efficiently practice market research, market investigations, and effective technical selling and sales promotion. We must know as an industry what the areas are which can yield consumption gains for copper and its products and what the danger spots are. Implicit in this is a better statistical knowledge of the industry up to the sale of the automobile, the appliance, the house, the electric power. Methods and channels of distribution must be examined and improved wherever found wanting.

Organizations Needed

It implies, again I believe on an industry basis, an active organization which will propagate the uses of copper and find new ones, an organization which will equal or better the merchandising techniques of other materials. At the present time most of the copper producing industry in the United States is shut down by strikes. This is not peculiar to copper—many other idustries have labor troubles. Prior to the strikes it was evident that copper was overproduced. Stocks were growing here and abroad in the hands of producers and fabricators. The overproduction which existed was not very great, probably less than 10%. Some producers here and abroad had announced curtailments of production. In the future temporary reductions in demand will no doubt recur. How the producers will react individually to such periods—whether they will try individually to cushion them so as to avoid wide fluctuations in prices remains to be seen. It is good for the long term future of the copper industry that there is now, and I hope there will continue to be, a capacity to produce somewhat in excess of the demand. This, together with sound marketing, pricing and production policies, should ensure a future growth of copper which, in my opinion, could well be substantially in excess of the past rate.

AEC to Buy More Uranium From Domestic Producers

Washington — The Atomic Energy Commission expects to purchase as much or more uranium concentrate from domestic sources as from foreign uranium mills this fiscal year.

If the forecast is borne out, it will be the first time the agency has depended on U. S. mines and mills for the major share of its uranium.

The commission made the prediction in announcing figures on its uranium concentrate procurements for the past 12 fiscal years. The figures show a steadily increasing portion of Federal purchases are being made from domestic sources. In fiscal 1959, the commission purchased 15,160 tons from domestic sources and 18,170 tons from foreign suppliers. In the preceding fiscal year, U.S. sources supplied 10,250 tons of concentrate compared with 16,130 tons from foreing sources. As recently as 1954, purchases of concentrates from sources abroad were double the domestic purchases.

"Uranium receipts from domestic sources are now expected to equal or exceed foreign receipts in fiscal years 1960 and 1961," the commission said.

The commission also revealed recently declassified figures on its uranium concentrate purchases prior to fiscal 1956. They showed, for example, that in 1948 all but 110 tons of more than 2,000 tons of concentrate bought by the commission came from foreign sources.

Data on how much uranium concentrate various foreign countries are supplying was not made public.

The Economic Outlook for Minerals

By JOSEPH C. McCASKILL, U. S. Department of Interior

The accompanying article is the text of an address delivered August 25, 1959, before the Mineral and Natural Resources Law Section of the American Bar Association, Miami Beach, Fla.

IN DISCUSSING the economic outlook for the nonfuel minerals, we first of all have to recognize that this is an especially difficult period in which to undertake any assessment of the future. The minerals industries after being beset by the depression of the thirties were called upon to move quickly into high gear to meet the demands of World War II. Then followed the Korean crisis during which the Government stimulated production at home and abroad to meet immediate needs as well as to fill the stockpiles against a threatened expansion of the conflict.

Government purchases were being terminated just as the business recession struck with particular severity at the minerals sector of the domestic economy.

These events have given rise to pressures for the Government to provide assistance to various segments of the minerals industries, especially to improve the competitive position of the domestic producer vis-a-vis the importer.

Any action by the Government to limit imports, to increase duties, to support prices, or to pay subsidies to domestic mine production, will, of course, improve the short-term outlook of the domestic minerals industries. In the long run, however, what lies beneath the surface of the earth, and man's ingenuity in discovering and extracting it, will determine the economic health of American mining.

We have reason to believe that demand for minerals will continue to grow at a rapid pace. The population of the United States is expected to increase one-third over the present level by 1975. The economists of the Bureau of Mines believe that the per capita consumption of minerals will increase by 40 per cent during this period. Putting these two factors together, you get a 75 per cent increase in total consumption of minerals by 1975. Shifting technology, the use of new materials, advances in the recovery of scrap, and other factors will mean that the increased demand for minerals will not be shared equally by all. The increase in the consumption of mineral fuels and nonmetallic minerals will probably be somewhat greater than this 75-per cent figure, and metals somewhat less.

This estimate of sharply increased demand for minerals raises serious question as to the ability of our domestic mineral resources to continue to supply a substantial portion of the mineral raw materials required by our expanding industrial economy.

There is a respectable body of opinion to the effect that the United States is rapidly depleting its mineral reserves. Peter F. Drucker, a leading management consultant, writing in Harpers in April 1956, succinctly states this position when he says " . . . the painful truth is that our basic long-range position in the international economy is not one of strength, but one of great potential weakness . . . Our own cupboard — once bountifully stuffed with raw materials — already has been emptied much more than most of us realize."

The Paley Commission[1] put it this way:

"In area after area the same pattern seems discernible: soaring demands, shrinking resources, the consequent pressure toward rising real costs, the risk of wartime shortages, the ultimate threat of an arrest or decline in the standard of living we cherish and hope to help others to attain. If such a threat is to be averted, it will not be by inaction . . ."

Although domestic production of minerals has increased markedly, our imports have grown even more rapidly — to such an extent as to give many people considerable concern. We must recognize, however, that our dependence upon foreign sources for raw materials is not something new. We have always imported virtually all of our supplies of tin, industrial diamonds, chromium, nickel, manganese, and a variety of other commonly accepted, but very important industrial raw materials.

At the turn of the century our net imports of minerals, excluding gold and mineral fuels, were running between five and ten per cent of our total consumption of these materials. Not until 1933 did our imports consistently, year after year, run higher than 10 per cent of total use. In 1957, our net imports of minerals (again excluding gold and mineral fuels) were approximately 20 per cent, dollarwise.

The depletion of high-grade ores, the growth of imports, and the subsidy programs to encourage the mining of lower grade deposits for defense purposes have been factors in building up a popular notion that the United States' mining industry is bankrupt and the country's mineral resources exhausted. Certainly the present rate of consumption of our irreplacable assets raises serious problems for our economy. Responsible people have begun to wonder if the Nation could continue to support our steadily increasing standard of living. This does not, however, justify the conclusion that the United States has become a "have-not" Nation, that our security is threatened by our increased dependence upon foreign sources for mineral raw materials, and that we have scraped the bottom of the barrel.

The United States today has more strength and diversification in its minerals-producing industries, and is turning out a greater volume of mineral raw materials than at any time in our Nation's history.

A hundred years ago 85 per cent of the value of all metallic ores mined in the United States was represented by one metal:—gold. Today we are producing a great variety of metals and nonmetallic minerals.

The United States with seven per cent of the world's population and only five per cent of the world's land area produces a third of the world's supply of minerals.

We lead the other nations in the production of copper. In fact, in 1956, copper mines in the United States turned out more copper than in any previous year—even more than during the war years. Prior to the strike, production in 1959 was running ahead of 1956. May production was an all-time record. We lead the world in the mining of iron ore. The value of uranium mined in the United States is exceeded only by iron ore and copper. We are among the foremost producers of lead and zinc. We supply some 80 per cent of the world's demands for sulfur and 90 per cent of the world's demands for molybdenum.

There is much to support state-

(1) The President's Materials Policy Commission, June 1952.

ments such as that issued by a Senate Subcommittee[2] in a report issued July 9, 1954, in which it declared:

"American resourcefulness in the utilization of our resources and the development of new techniques, substitutes, and replacements assures this Nation of a continually increased production and complete self-sufficiency in the Western Hemisphere.

"The United States has been, still is, and will continue indefinitely to be the world's greatest producer of mineral wealth if the profit incentive is maintained. With the possible exception of the U. S. S. R., no other world power can develop within its own borders mineral power equal to that of the United States."

Last February, the American Institute of Mining, Metallurgical, and Petroleum Engineers undertook to appraise the forecasts of the Paley Commission. The general consensus was that the Commission's predictions appear to have been much too gloomy. Our present abundance of aluminum, copper, lead and zinc, and other metals, tends to make the Paley forecasts appear overly pessimistic. But if, five years from now, we should be in the middle of a real boom, with mineral shortages, we might feel differently.

Our concern over the future is not that we shall run out of some particular commodity; the threat is that depletion of ores will lead to rising real costs of mineral raw materials. In this connection, Charles Merrill[3], of the Bureau of Mines, recently studied the price trends of aluminum, copper, pig iron, bituminous coal, petroleum, sulfur and cement. He made two comparisons: (1) the quantities of each of the commodities that could have been purchased from an average year's wage in each year; and (2) the unit price of each commodity through the years in terms of deflated dollars. His findings, perhaps a bit startling, are that there has been a long downtrend in the prices of these basic mineral raw materials. This, of course, is a heartening conclusion. It means that up to now less and less human effort has been needed to provide these basic raw materials for industry. It suggests that we are capable of sustaining a continuing rise in our standard of living.

Whether the future of America is written in terms of depleted resources and rising costs, or in terms of wise use of resources and improved living standards, will depend in large measure on the ingenuity of our people and the wisdom of our public policies.

Tom Nolan[4], the Director of the United States Geological Survey, says: "We probably need to fear, not the exhaustion of physical resources, but the dangers of inadequate or belated utilization of our intellectual resources." Dr. Nolan, expressing his faith in the future, says: " . . . research and technologic development have to a large extent eliminated from the conservation movement concern over the inadequacy of our resource base."

This expression of faith on the part of the Survey Director is based in part on the 16 per cent of the Continental United States which is covered by geologic maps. Those of us who share that faith believe we have to get on with the job of completing the mapping of the country and that public policies have to give encouragement to a program of wise and orderly development of our mineral resources.

We know full well that we face a difficult task in replenishing our easily accessible, high-grade reserves of minerals now being depleted. We know also that we are up against substantially increased costs that go with the mining of low-grade ores. The conclusion is inescapable that unless we discover new and presently unknown commercial deposits, we're in for trouble.

Most of us are aware that a new era in exploration is being ushered in. I have noted discussions by members of this section of the so-called discovery problem. This problem arises because of the development and use of new instruments and techniques for locating ore.

One of the interesting chapters in our American history is that of the prospector and his donkey. The gold in California and the Klondike, oil in Pennsylvania and other parts of the world, copper in the northern peninsula of Michigan—the metals and minerals we've known and used—were found by the discovery of outcrops, places on the surface of the earth where the mineralized strata broke through and were exposed.

It is now generally agreed that we may not expect important new discoveries merely by looking for outcrops. From here on we have to look below the surface. This means, of course, we have to have instruments of some kind that will at least give us hints of where mineralized areas might be found.

If we are to continue to replace deposits being mined out, we must find ways to stimulate more exploration and to encourage the development and use of new tools and techniques.

This leads me to suggest that Federal mineral policy should begin with this problem of exploration. This is one area in which the Federal Government has a real responsibility.

There are at least three approaches the Government can take to this problem of promoting discovery.

The first has to do with the public lands. I persist in believing that it is possible to step up the use of the newer geophysical and geochemical techniques in exploring the public domain, in spite of some very obvious problems. It is difficult to adapt an 87-year old law to the new age of scientific discovery. If we can somehow encourage new prospecting over much of the known mineralized area of the United States, we shall find, I am confident, major new deposits within accessible depths. It is only through the accident of erosion that many of the now-known deposits have been exposed at the surface. It seems reasonable to suppose, as many geologists claim, that we have literally merely scratched the earth's surface, and that there is yet abundant mineral wealth within the United States awaiting discovery.

As a second Government assist to exploration, I should like to suggest that the present program under which the Federal Government assumes a share of the risks in exploration should be expanded and strengthened. From the evidence to date, the old Defense Materials Exploration Administration program served well the public interest. More than half a billion dollars worth of ore was discovered under this program. Important new mining districts are now being developed as a result of these discoveries.

A third reasonable role the Government can play in encouraging exploration is to have a good look at the tax laws. I seriously doubt that we have really taken sufficient note of the distinctive nature of mining, with its inherent risks, the necessity to replenish reserves, and the wastage of its assets. Especially deserving of study is the provision limiting

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(2) Report No. 1627, Report of the Committee on Interior and Insular Affairs, made by its Minerals, Materials, and Fuels Economic Subcommittee, Pursuant to S. Res. 143, 83d Cong., 2d Sess., p. 35.

(3) Merrill, Charles W., Trends in Real Prices of Representative Mineral Commodities, 1890–1957. AIME, SME Preprint No. 59K21, Ann. Mfg. Feb. 15–19, 1959, San Francisco, California.

(4) Nolan, Thomas B., "The Inexhaustible Resource of Technology," Perspectives on Conservation: Essays on America's National Resources, Resources for the Future, pp. 65 and 66, published by The Johns Hopkins Press, Baltimore, Md.

expensing of the costs of exploration.

We need the kind of program which encourages exploration now, for production 10 to 15 years in the future, rather than for immediate production.

Going hand in hand with the encouragement of exploration, the Government finds a proper role in the field of research. The highlights of such a program include basic research to expand our knowledge of how and why mineralization occurs, the improvement of techniques and instruments of exploration, the development of new uses for minerals we have in abundance, the devising of mining and milling methods that make it possible to beneficiate lower grade ores at lower costs, and the development of synthetics to replace less abundant minerals.

The Government is, of course, not the only agency in our economy carrying on such research. Government programs must be articulated with those of industry and private institutions. There is substantial need for Government participation. For example, during the last quarter of a century, industry has devoted much time, effort, and money to research on new uses of minerals and on marketing. The amount spent for this type of research ran far ahead of that spent in the development of discovery techniques.

The Government must undertake research which cannot or will not be undertaken by private industry, looking toward the full and orderly development of the Nation's mineral resources.

Another role which Government must play, in fact, which it cannot avoid, has to do with international policies which will affect the long-term outlook of the nonfuel minerals. These commodities are produced in many parts of the world. They move in international trade. The resources of most of the producing world are readily available to us. It is possible that the less-developed countries of the world will begin to deny us access to their resources as their pace of industrialization quickens. Our own efforts to increase duties and restrict imports may influence such action.

In this connection, it is interesting to note that international consultations on copper, lead, and zinc have occurred during the past year.

In late 1957, several countries requested the United Nations to convene an international conference to discuss problems of copper, lead and zinc. The conference convened in London last September. All of the nations who are major producers or consumers of copper, lead and zinc, were represented there, and others who had only minor interests in the problem.

The delegates devoted the first three days to discussions of copper, concluding that there was no need for further intergovernmental action. Between the initial call of the conference and the actual convening, copper markets had firmed and surplus stocks were disappearing.

As to lead and zinc, however, the London conference concluded that world production was so far in excess of anticipated consumption that it was extremely doubtful that normal market forces alone could bring about a satisfactory balance in the near future.

The United States' delegation pointed out that world production for several years had exceeded world consumption, and that the surplus had gone into the United States, first into Government stocks, and then into the stocks of private producers. The United States' delegation also pointed out that there had been little cutback in production outside of the United States, and stated that unless major producing nations were willing to curtail production and exports, the United States would be forced to take unilateral action to prevent further deterioration of the domestic lead and zinc mining industries.

Several proposals were put forth at the London meeting. These included a specific suggestion by the Mexican and Peruvian delegations that all countries reduce their exports 20 per cent below their 1957 levels. These proposals were referred back to governments, inasmuch as most of the delegates at the London meeting did not have authority to commit their governments to any specific course of action. After replies from the governments had been received, the Office of the Secretary-General of the United Nations issued a call for a second meeting which was held at Geneva, Switzerland, November 10, 11, and 12, 1958.

In the interim, on September 22, 1958, the President announced the imposition of import quotas on lead and zinc, effective October 1, 1958.

The United States was hopeful that at Geneva the major exporters would devise some sort of informal understanding among themselves to curtail their exports. The conferees, however, were not able to reach agreement. The Geneva meeting did advance the cooperative efforts of the nations and did create an awareness of the seriousness of the problem. It was agreed to have another try.

A third session was held in New York, April 28 to May 6, 1959.

A few days prior to the meeting, a leading American company announced certain cutbacks in the production of lead and zinc outside of the United States. A day or so later, a Canadian company also announced cutbacks. These announcements apparently gave impetus to an opinion which had been growing since the London meeting that only by substantial reductions in output could stability be restored to the world lead and zinc trade.

The New York meetings therefore began in a favorable climate. The upshot of the meetings was a series of statements in which countries announced reductions in output or exports. When these were finally tallied, and projected world production was set against anticipated consumption, it began to look as if the second half of the year would see a good balance between zinc production and demand, and a substantial reduction in the excess of lead output.

It is too early to know whether these announced reductions in output are being lived up to. The London Metal Exchange seems to say yes. Zinc prices have risen steadily while lead has more or less marked time. The achievements thus far, seem to me to be most significant.

I have not discussed some of the more controversial problems of public policy, such as whether or not Government should subsidize the mining of low-grade ores in order to maximize the development and use of domestic resources. Let me say that, in general, I think this would not be in the long-term interest of the country. Nevertheless, I am cognizant of the complexity of the issue. Let me illustrate, if I may:

In one of the major mining districts of the country, the lead ore being mined is the lowest grade lead ore mined anywhere in the world, according to the president of the company. The company seeks a higher tariff in order to continue to mine this ore. Otherwise the mines will have to be closed down and the company will abandon operations here and move to a new district where there are substantial deposits of much higher grade ore.

Many people who are knowledgeable about mining claim that, should the company move and abandon these mines, all of this ore will be forever lost. This bothers the conservationists and provides an argument for those who would like to see

(Continued on Page 16)

LONDON COPPER MARKET DOMINATED BY U.S. STRIKE NEWS; GENERAL ELECTION MAY HAVE DULLING EFFECT

Stability in Tin Likely to Continue, With Buffer Manager in Good Position To Buy or Sell; Lead Consumption Well Maintained; Zinc Tone Remains Good

September 7, 1959

IN VIEW of the magnitude of the output affected by the strikes in the United States copper mining and refining industries, it is hardly surprising that the market here has continued to be largely dominated by developments in the U.S.A. during the past month. However, few people are losing sight of the fact that unrestricted world production today is well ahead of total consumer requirements, even allowing for the favorable economic trend both in the United States and Europe.

As a result the London market has remained sensitive and inclined to reassess the situation almost on a day-to-day basis. A striking example of this was a rumor—later proved to be false—that Anaconda had promised the unions to abide by the terms of any settlement made by any of the other major producing countries. This occasioned a sharp setback in prices for a day or so, the situation being complicated by a temporary breakdown in the trans-Atlantic Telex service owing to climatic conditions. Had it not been for this sharp setback on a false report, many people think the London market would have moved to a higher level than has actually been the case and it is certainly true that in comparison with a going price in the U.S.A. of 33-33½ cents for spot metal the London cash quotation has seemed to be on the low side, even after allowing for freight and import duties.

By L. H. TARRING
London, England

When the big Asarco capacity was rendered idle by the strike, bringing the total stoppage to something like a million short tons of copper a year, it might have been expected that there would have been a marked hardening in sentiment on this side of the Atlantic. Initially, however, this was not the case and, in fact, prices showed a tendency to sag. This was apparently based on the belief that both fabricators and manufacturers in America were heavily stocked in anticipation of the strike and the view that once the stoppage was over a surplus supply position would probably re-emerge.

A little later, however, it became clear that no early settlement of the strike was anticipated and that the stock position of all users was not quite as strong as it had been made out to be. At any rate this is the only interpretation that could be put upon the quite substantial American buying of electrolytic copper in Europe which developed towards the end of August and early in September. At the time of writing, the full impact of this has not been seen in stock figures as some of the first shipments were not from copper in Metal Exchange warehouses and inevitably there is a little delay between the time of purchase and the time of shipment.

However, it is currently said that there is no further freight space uncommitted for moving copper from the U. K. to America within the next two or three weeks and a good deal of metal is also believed to have been bought on the Continent. Naturally, the possibility of a dockers' strike in New York at the end of September has aggravated the pressure for prompt or early shipment. It is probable, therefore, that London Metal Exchange warehouse stocks will show some further reduction in the next two or three weeks, as an appreciable proportion of the metal held is in the acceptable form of electrolytic wirebars.

Meanwhile, consumption of copper in Europe is making a very good showing with the exception of the wire trade which continues to show the serious effects of the cutting off of Russian buying, which was such a major feature in 1957-58. In this country the brass trade is running at a very satisfactory level and with the promising upward movement in general industrial production should continue in high gear for some time. So far, the possibility that the El Teniente wage negotiations in Chile might result in a strike at the end of September has not had any major influence on sentiment here as it is thought the company and the unions may well reach agreement. Should this situation deteriorate, however, it would

U. K. COPPER STATISTICS

U. K. production of refined copper in June was 10,856 tons of primary and 8,810 tons of secondary compared with the May totals of 6,869 tons of primary and 6,148 tons of secondary, according to the British Bureau of Non-Ferrous Metal Statistics. Stocks of refined copper showed a further increase at 70,945 tons (66,498 tons) but blister showed a decline at 10,532 tons (12,007 tons). Of the refined stock, consumers held 34,181 tons compared with the May figure of 39,214 tons. Consumption rose to 56,112 tons from the May figure of 47,620 tons. Details are given below:

		6 mos. ending —30th June—	
Unalloyed Copper Products	June 1959	1958	1959
Wire (1)	21,538	139,016	111,317
Rods, bars & sections	1,751	10,758	90,979
Sheet, strip & plate	5,236	28,786	28,863
Tubes	5,834	30,846	31,928
Castings & miscellaneous	650	3,900	3,900
Alloyed Copper Products			
Wire	1,693	7,902	8,689
Rods, bars & sections	11,775	60,989	66,597
Sheet, strip & plate	8,984	45,828	50,026
Tubes	1,742	12,207	10,473
Castings & miscellaneous	5,675	37,293	36,645
Copper sulphate	3,776	13,703	21,232
Total all products	68,654	391,228	379,649
Copper content of output	56,112	328,535	308,209
Consumption of refined copper (2)	4,761	259,318	232,857
Consumption of copper & alloy scrap (3) (copper content)	11,351	69,217	75,352

Notes: (1) Consumption of H. C. copper and cadmium copper wire rods for wire and production of wire rods for export.
(2) Virgin and secondary refined copper.
(3) Consumption of copper in scrap is obtained by the difference between copper content of output and consumption of refined copper, and should be considered over a period since monthly figures of scrap consumption are affected by variations in the amount of work in progress.

U. K. TIN STATISTICS

According to the British Bureau of Non-Ferrous Metal Statistics, consumption of tin during June rose to 1,987 tons compared with 1,686 tons the previous month. Production rose to 2,267 tons (plus 32 tons secondary) against the May figures of 1,808 tons (32 tons) while stocks in the U. K. at the end of June showed a slight increase at 9,638 tons from the May figure of 9,445 tons. Details of consumption of primary tin are given below:

		6 mos. ending —30th June—	
	June 1959	1958	1959
Tinplate	1,022	4,734	5,073
Tinning:			
Copper wire	48	264	283
Steel wire	8	264	53
Other	65	364	390
Total	121	676	726
Solder	183	851	1,081
Alloys:			
Whitemetal	247	1,387	1,494
Bronze & gunmetal	166	1,185	988
Other	44	206	211
Total	457	2,778	2,693
Wrought tin (1)			
Foil & sheets	33	145	167
Collapsible tubes	21	137	114
Pipes, wire & capsules	3	21	21
Total	57	303	302
Chemicals (2)	147	501	698
Other uses (3)		50	
Total all trades	1,987	9,893	10,573

Notes: (1) Includes Compo and "B" Metal. (2) Mainly Tin Oxide. (3) Mainly powder.

AVERAGE BRITISH PRICES FOR COPPER, TIN, LEAD, ZINC

(Per Long Ton)

Mean of Bid and Asked Cash Quotation at Close of Morning Session on London Metal Exchange

	COPPER			TIN			LEAD		ZINC	
	Cash	3 Months	Settlement	Cash	3 Months	Settlement	Current Month	3rd Following	Current Month	3rd Following
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1954 Averages	248 17 11	239 17 7	249 0 11	719 8 11	709 17 7	720 6 7	98 8 12	94 7 4	78 5 4	77 16 11
1955 Averages	351 14 11	341 0 3	352 5 6	740 2 12	736 12 11	740 12 8	105 17 3	105 9 6	90 13 4	89 12 3
1956 Averages	328 14 5	324 13 1	329 1 8	787 14 9	774 7 7	788 13 3	116 6 5	114 8 9	97 14 3	95 3 7
1957 Averages	219 8 10	221 0 3	219 12 10	754 15 4	747 10 10	755 3 11	96 12 9	96 13 2	81 11 7	80 1 1
1958 Averages	197 13 3	197 9 3	197 16 11	734 18 6	734 17 11	735 6 1	72 15 8	73 6 10	65 17 12	65 10 12
1959										
January	230 2 0	227 5 10	230 5 0	758 15 6	759 4 9	759 2 10	71 17 0	72 3 3	74 17 8	72 18 8
February	236 4 2	235 10 8	236 7 6	772 9 9	773 9 0	772 15 0	69 19 4	70 16 6	73 13 8	71 19 8
March	248 10 3	247 12 2	248 13 6	779 14 9	783 5 9	780 1 6	69 10 3	71 4 2	75 2 5	73 18 8
April	240 0 5	240 6 6	240 3 5	782 5 3	783 15 5	782 11 4	69 1 0	70 8 4	72 13 9	72 9 2
May	236 4 2	236 11 6	236 6 9	784 4 3	784 10 9	784 10 0	70 16 0	71 13 10	77 7 1	75 17 6
June	230 0 11	230 0 4	230 3 8	788 7 9	789 8 10	788 14 1	69 13 4	71 5 8	78 8 2	77 6 11
July	220 17 6	221 14 9	221 0 3	792 6 6	790 16 4	792 13 6	70 5 0	71 1 2	80 10 7	79 13 4
August	232 16 9	231 9 3	233 0 0	792 18 6	791 18 3	793 4 6	72 3 3	73 3 1	85 5 11	83 19 5

probably have considerable impact on the European and London markets.

It is now being forecast by the political commentators that a general election here is probable early in October and if this proves accurate, business may go through a dull period for a few weeks but it is hoped that the interruption will be of very limited duration.

With effect from January 1st, 1960, the London Metal Exchange Standard Copper Contract has been amended as regards the discounts payable for class B copper. These will be from January 1st:—Class B.1. Electrolytic copper in the form of cathodes assaying not less than 99.90 per cent of copper at contract price, less £1 per ton. Class B.2. High Grade Fire Refined copper assaying not less than 99.88 per cent of copper in the form of ingots or ingot bars, at contract price less £3 per ton.

ITC Tin Meeting

Despite the continuance of the steel strike in the United States the tin market held remarkably steady during August pending the meeting of the International Tin Council in London at the beginning of September. European consumer demand has been quite good and American interest, particularly in forward metal, made a rather better showing than some people had thought probable. A certain amount of selling by the Buffer Stock Manager continued in evidence, some of which was understood to be from the 2,500 tons of British Government stock entrusted to the Buffer Stock for disposal over the second half of this year. This Government holding is thought to have been more than half disposed of by now.

It was generally anticipated that there would be some increase announced in ITC quotas for the fourth quarter of the year but the actual figure, which raises the quota from 25,000 tons to 30,000 tons, somewhat exceeded expectations. The council is obviously taking a fairly favorable view of consumption prospects and presumably is also not expecting any resurgence of Russian exports which so far this year have been proportionately smaller than the maximum of 13,500 tons to which they promised to limit their shipments in 1959.

There is uncertainty as to how the International Tin Council is interpreting Article VII in the Control Agreement and unfortunatly no official information is obtainable. Consequently, the market is in ignorance as to whether the Buffer Stock can be reduced to less than 10,000 tons whilst restrictions of exports is in operation. However, as the Buffer Stock is currently in a good position to either buy or sell and its authority to do either within the middle price range has been extended to cover the fourth quarter, a stable market seems likely to continue.

American Import Quotas

Possibly the most striking feature of interest in the lead situation during the past month has been the demonstration of how effectively the U. S. import quotas have isolated the American market from that in Europe. One is prompted to this conclusion by the fact that the stoppage of the huge refining capacity of the American Smelting & Refining Co. by the strike has left the market here to all intents and purposes completely unaffected, although the U. S. domestic price was very quickly raised to 13 cents.

The fact that, with the quotas normally fully implemented, America cannot in the present circumstances draw on additional supplies from other countries should the need arise, means that consumers on this side of the Atlantic continue to look forward to an ample flow of metal for their needs.

Consumption on the whole is quite well maintained but, as has been previously mentioned, is not expanding proportionately with the general level of economic activity in the U. K. and on the Continent. In the first half of this year U. K. consumption was about 2,700 tons lower than in the comparable period of 1958, mainly owing to the cable trade taking some 4,500 tons less, thus more than offsetting marginal gains in sheet and pipe and a quite substantial percentage improvement in consumption in tetraethyl lead.

The easiness in the supply situation here is indicated by the fact that in the first seven months of this year U. K. imports of pig lead totalled 123,200 tons, compared with 87,086 tons a year ago when consumption was, if anything, on a rather better scale.

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U. K. LEAD STATISTICS

Lead stocks in the U. K. at the end of June were 57,810 tons (47,185 tons imported and 10,625 tons of English refined) against 63,135 tons (53,056 tons and 10,079 tons) in May, according to the British Bureau of Non-Ferrous Metal Statistics. Production during June rose to 8,222 tons compared with 7,473 tons a month earlier. Full consumption details are given below:

	June 1959	6 mos. ending —30th June— 1958	1959
Cables	8,366	52,508	48,097
Batteries — as metal	2,502	15,249	14,515
Battery oxides	2,522	14,098	13,266
Tetraethyl lead	2,401	9,636	11,705
Other oxides and compounds	2,288	12,634	13,017
White lead	794	4,419	4,026
Shot (inc. bullet rod)	326	2,311	1,987
Sheet and pipe	6,054	32,593	33,286
Foil & collapsible tubes	374	2,213	1,790
Other rolled & extruded	635	2,869	3,265
Solder	1,268	6,806	7,114
Alloys	1,423	9,310	9,416
Miscellaneous uses	1,146	6,222	6,678
Total consumption	30,099	170,868	168,162
of which:			
Imported virgin lead	15,343	85,386	86,646
English refined	7,068	39,087	36,244
Scrap including remelted	7,688	46,595	45,272

U. K. ZINC STATISTICS

According to the British Bureau of Non-Ferrous Metal Statistics zinc stocks during June rose slightly to 38,297 tons against 37,713 tons a month previously. Of this total consumers held 17,702 tons. Production also showed an increase at 7,437 tons compared with the May figure of 5,938 tons. Consumption details are given below:

	June 1959	6 mos. ending —30th June— 1958	1959
Brass	9,080	48,634	52,738
Galvanizing	9,103	43,541	48,289
of which: General	3,014	16,822	16,536
Sheet	2,409	9,536	12,586
Wire	1,816	10,787	10,166
Tube	1,864	6,396	9,001
Rolled zinc	2,039	12,753	12,332
Zinc oxide	2,473	13,846	14,364
Zinc diecasting and forming alloy	5,470	25,136	26,273
Zinc dust	1,083	5,160	5,787
Miscellaneous uses	973	5,533	5,469
Total all trades	30,221	154,603	165,202
of which:			
Slab zinc			
High Purity (99.99%)	5,961	27,574	28,376
Electrolytic & High Grade (99.95%)	5,324	30,097	31,376
G.O.B. Prime Western & debased	11,241	55,169	60,944
Other virgin material	219	1,558	1,251
Remelted Zinc	515	2,552	2,831
Scrap — (Zinc content)			
Zinc metal, alloys & residue	3,016	15,864	16,539
Brass & other copper alloys	3,945	21,789	23,885

WIDESPREAD STRIKES HELP BOOST SOME U. S. PRICES; SMELTER COPPER AT 33c LB., PRODUCERS AT 30-31.50c

Lead Steady at 13c New York; High Grade and S.H.G. Zinc Premiums Up With Rise in Prime Western Likely Before Steel Strike Ends; Tin Demand Better

September 18, 1959

THE widespread metal industry strikes helped to push some prices up during the month in review. Producer copper went to a range of 30.00 to 31.50c a pound as against a flat 30.00c previously, while custom smelter metal was pegged at 33.00c a pound after a period of nominal quotations. Lead was marked up 1.00c to 13.00c a pound at New York. Prime Western zinc was very firm at 11.00c East St Louis, with the premiums for High Grade and Special High Grade zinc advanced 0.25c a pound.

Smelter Copper at 33c

The custom smelter price for electrolytic copper was officially established at 33.0c a pound on August 31. That price was quoted by American Metal Climax, the only major custom smelter whose refinery is not affected by the strike that closed the plants not only of the two major custom units but also over 75 per cent of the copper producing and processing facilities in the country. There had been no official custom smelter quotation for about two weeks previous to August 31. Although copper in that two-week period had been sold at 33.00c a pound, the metal, it was claimed, did not fall into the category of either custom smelter or producer copper. Prior to the time that the custom smelter quotation had been withdrawn, it was 30.00c a pound delivered.

Some Producers at 31½c

Some of the few primary producers still operating increased their copper prices 1.50c a pound on September 9 to 31.50c a pound. The rise was initiated by Copper Range Co. and its wholly-owned subsidiary, White Pine Copper Co. White Pine's labor pact with the Steelworkers Union is not scheduled to expire until September 28. On the heels of the White Pine rise, Anaconda Sales Co. announced that because of the continued strike affecting domestic production, the company's delivered price of copper of foreign origin was increased 1.50c to 31.50c, also effective September 9. Anaconda Sales also announced that its delivery of copper for the account of Inspiration Consolidated similarly was increased to 31.50c as of September 9. Calumet & Hecla advanced its price on its Lake copper to 31.50c, effective September 10.

LATE NEWS, PRICE CHANGES

Zinc: The price of Prime Western zinc was advanced 1.00c on September 21 to 12.00c a pound East St. Louis.

Copper: Consumption of copper by fabricators in August rose to 120,563 tons from 81,500 tons in July.

Aluminum: U.S. primary aluminum production in August dipped to 172,817 tons from 179,194 tons in July, the all-time record month. For the first eight months of 1959 output came to 1,294,410 tons compared with 1,006,518 tons in the like 1958 period.

Phelps Dodge, whose mining and refining properties were shut by the strike does not have copper available for shipemnt and therefore is not called upon to price metal. Prior to being shut by the strike, it had quoted 30.00c for copper. But Kennecott, whose mining and refining properties also were idled by strikes, adhered to its quotation of 30.00c a pound delivered. Kennecott is shipping relatively small tonnages of copper out of warehouses where the metal was stored prior to the strike. Consequently, multiple prices prevail at this writing for copper; domestic producers range from 30.00 to 31.50c a pound with the smelter quotation at 33.00c.

Demand for copper at this writing has been slow. Consumers showed little interest in acquiring metal in the outside market with dealer metal at this time available at around 33.00c a pound, delivery guaranteed during September. At this writing there wasn't much buying of copper in London since there was little or no shipping space available that would permit the copper to arrive in this country before a possible strike by longshoremen on the U. S. Atlantic and Gulf Coasts on October 1.

Virtually all major brass and wire mills increased their selling prices for their products to reflect copper at a price of 31.50c. American Brass Co. and Anaconda Wire & Cable, both Anaconda subsidiaries, were the first to post higher prices, effective September 10. The fabricators also posted higher brass mill scrap buying prices.

While one of Kennecott's subsidiaries, Okonite Co. (which took over Kennecott Wire and Cable), increased its wire mill prices to reflect a 31.50c price for copper although its parent company continued to sell the metal at 30.00c, another subsidiary, Chase Brass Co. at this writing is continuing to base its brass mill prices on copper at 30.00c.

Kennecott said that Okonite, unlike Chase, has been a buyer of copper in the open market. It was reported that Okonite's wire mill advances of about 1.50c do not actually cover the average cost of the copper. Chase Brass, on the other hand, gets all of its copper from Kennecott.

Range for Brass Ingots

A major producer of brass and bronze ingots increased its selling prices 1.00c to 2.00c a pound, depending on alloy, effective September 3. Since at least two large Chicago ingot makers did not take similar action, a range prevails at this writing for brass and bronze ingots. Those ingot makers who did not advance their selling prices generally were quoting the levels which were established on July 7 when all alloys were reduced 1.00c to 2.00c a pound, depending on alloy.

Scrap Copper Weaker

Whereas the only custom smelter operating increased its electro copper selling price 3.00c a pound to 33.00c on August 31, that same date it only advanced its scrap copper buying prices 0.75c to a basis of 25.00c for No. 2 heavy copper and wire scrap. Its bids were boosted another half cent on September 2 to 25.50c but on three more recent occasions (September 14, 15 and 18) it reduced its buying prices, to 24.50c

a pound for the No. 2 grade on September 18.

On the Labor Front

The International Union of Mine, Mill and Smelter Workers during the month in review has concluded new contracts with the American Metal Climax refinery at Carteret, N. J., and with the American Brass Company, covering ABC plants at Ansonia and Torrington, Conn., and at Buffalo, N. Y. The American Brass plant at Paramount, Calif., was idled by a strike called by the United Steelworkers on September 12.

Bargaining sessions had been resumed between Mine, Mill and Anaconda on September 14 but the negotiations collapsed the following day. The company at a meeting with the union in Butte, Mont., turned down a union proposal that negotiations be based on the two recent industry settlements. The union, according to Anaconda, had indicated it was not interested in a suggestion by the company that a one-year settlement, including a wage increase of around 6.70c an hour, be discussed.

As of this writing, the next meeting between Mine, Mill and a major producer (Kennecott) is scheduled for September 22. The discussions are expected to be mainly of an exploratory nature.

Copper Output, Stocks Down

The copper statistics for August reflected the effects of the domestic strike, with a sharp drop in domestic primary production, a decline in shipments and a decrease in refined stocks. Foreign output, on the other hand, soared ahead, as did the deliveries, and foreign refined stocks were down. An analysis of the figures appeared to show that even after the strike is over, there is likely to be a tight supply situation in the domestic market since the stocks of copper at the refineries are at an extremely low point.

Domestic refined copper statistics for August follow in tons, with the July totals in parentheses: production, 79,860 (134,020); deliveries to domestic fabricators, 89,123 (108,127); stocks at end of period, 92,175 (103,432).

Foreign refined copper statistics for August follow in tons, with the July totals in parentheses: production, 141,877 (140,732); deliveries to customers, 148,121 (123,011); stocks at end of period, 282,344 (286,122).

Lead at 13c New York

The one cent hike in the lead price on August 24 to 13.00c a pound New York was initiated by St. Joseph Lead Co. The rise reflected heavy demand for lead for some two weeks previously. More consumers had turned to St. Jo for their lead supplies with the closing down of American Smelting & Refining Co. by strikes. But Asarco reentered the market as a seller of lead at 13.00c on August 25. Asarco can ship lead from the Federal Smelter and from warehouses where it has stocks; it also can ship Mexican metal.

The smelting charge for lead battery plates was boosted twice, on August 24 and 25, and by $5 a ton on each occasion, to a basis of $70 a ton.

On the strike front the three-month old shutdown by the United Mine Workers of America of the lead refinery of U. S. Smelting, Refining & Mining Co. at East Chicago, Ind., was ended on September 17. The plant has a refining capacity of about 3,500 tons a month. Resumption of operations will make possible the shipment of refined metal that was in the refinery prior to the strike.

A meeting also had been scheduled between representatives of Mine, Mill and of the International Smelting & Refining Co., an Anaconda subsidiary at Tooele, Utah, on September 17. The Tooele plant is primary a lead-zinc smelting operation.

Zinc Price Hike Likely

Domestic zinc smelters have been finding it increasingly difficult to obtain adequate tonnages of high grade foreign concentrates. The price prevailing abroad makes it more advantageous to sell the concentrates to foreign smelters. The foreign price of slab zinc is above the U. S. parity, when to the London quotation are added the U. S. import duty and transportation charges. The LME price on September 18 was equivalent to 12.20c c.i.f. New York, duty paid, whereas the New York price for Prime Western is 11.50c a pound. In some quarters the feeling was gaining ground that the spread between the domestic and foreign zinc prices will have to be narrowed so as to attract foreign concentrates.

Up to now the consensus was that since the steel industry is the largest single consumer of zinc and since the strike has cut down consumption by galvanizers, it would be best to keep the Prime Western price unchanged on the basis of 11.00c a pound East St. Louis. However, in view of the prospects of a prolonged steel strike, probably into early October, sentiment appeared to be building up for an advance in the domestic zinc quotation before the strike is over.

Premiums Advanced

The premiums for High Grade and Special High Grade zinc were increased 0.25c a pound on August 31. At the same time prices for zinc die casting alloys were boosted 0.25c. By September 2 the entire industry had taken such price action. Carload prices, in cents per pound, moved up too: Special High Grade, 12.50c; High Grade, 12.25; Zamac No. 3, 14.25; Zamac No. 5, 14.50; Zamac No. 2, 14.75.

Subsequently, smaller producers of zinc die casting alloys increased their selling prices another 0.25c, effective September 8. But with larger producers adhering to selling their alloys at the prices established on August 31 and on September 2.

August Zinc Statistics

The August statistics for zinc (all grades) follow in tons, with the July totals in parentheses: production, 69,768 (73,101); domestic deliveries, 58,918 (59,460); deliveries to all destinations 59,782 (60,454); stocks at end of period, 192,019 (182,033).

Some Demand for Tin

Whether or not there will be a dock strike on October 1 is still anyone's guess at this writing but those tin consumers, who usually buy less than carload lots, did not wish to take any chances and they have been buying nearby positions of tin. Importers who have been selling nearby, being unwilling to take an liberties with the market, turned about and purchased forward positions.

The consensus among tin dealers was that following a settlement of the steel strike, prices will move up on the London Metal Exchange. Prices of late have been remarkably firm on the LME.

The New York price for spot Straits on September 17 was 102.87½c a pound, as compared with 102.50c for August 18. The high during the August 18-September 17 period was the 103.00c, registered on August 24, 27 and 28, while the low of 102.00c occurred on September 8, 9 and 10.

Silver Fluctuates

The silver price showed some fluctuation during the month in review, moving twice. On August 28 it advanced 0.25c to 91.625c an ounce, and on September 3 it was marked down by the same amount to its previous level of 91.375c an ounce.

Quicksilver Weaker

Spot quicksilver was quoted at $223 to $225 per flask of 76 pounds on September 16, as against the range of $230 to $232 per flask established on August 13. The price weakness was attributed to lack of domestic consumer demand.

British Metal Markets

(Continued from Page 13)

Moreover, exports of lead and its products from the U. K. this year have certainly not been on any larger scale than they were last year.

Zinc Market Tone Good

Price movements in zinc on the London market in recent weeks have not been of a very spectacular kind, but the general tone remains quite good. This is due to the simple fact that consumption of zinc is expanding in the U. K. and also in Europe and in the Far East and, thanks to the limitation of supplies several leading producers have been practicing since about the middle of the year, the supply situation is reasonably tight.

Whether consumption is now beginning to forge ahead of supplies is a rather moot point at the moment, some observers here believing that there is a certain amount of metal available from Continental producers should the London market price become attractive enough. Although there is currently quite an appreciable backwardation in prices, it is hardly sufficient to offset the cost of moving metal from Europe to the U. K., so that not very much is flowing here from the Continent.

On the consumption side it is encouraging to note that in the first half of this year Britain used nearly 11,000 tons more zinc than in the corresponding period of 1958 with the two main outlets, brass and galvanizing, each showing substantial gains. The improvement in the case of metal for die-casting is less marked, but nevertheless consumption in this direction is now running at a rate in excess of 50,000 tons a year which is probably a record. Imports into the U. K., however, this year have risen quite sharply, amounting to 102,132 tons in the first seven months—or nearly 25 per cent more than the 83,699 tons imported in the corresponding period of last year. Consequently, although terminal market supplies remain on the tight side, consumers are not experiencing any difficulty in covering their actual requirements.

Developments in connection with the U. S. quota scheme in the United States are being watched, but at the moment the position is not sufficiently defined for the interest to be other than rather academic. The reply by Mr. Seaton, the Secretary of the Interior, to the proposals for amending the quota system put forward by some of the domestic smelters was so prompt and so categoric that it is difficult to believe any action likely to affect the international market will be taken, at any rate for some months to come.

Outlook for Minerals

(Continued from Page 11)

price supports or higher tariffs for domestic mining.

Others, however, claim that subsidies to submarginal mining stifle developing technology and lead to rising real estate costs which inevitably increase human drudgery and lower living standards.

The problem is not entirely a question of low-grade domestic ores against high-grade foreign ores. Most foreign mine production is less responsive to price declines than is domestic production. The desperate need for foreign exchange leads governments of underdeveloped countries to pressure mine operators into continuing existing levels of production even though uneconomic. Often tax incentives are held out, and the social security laws of some of the countries make it less costly to continue work than to lay off a miner.

The great disparity in labor costs between foreign mines and domestic mines is, of course, constantly used to justify import restrictions.

The issues are clearer than the answers.

One cannot look too far into the future with reference to man and his resources. Population growth at present rates must lead to designs for living that are beyond our experience. Science and technology will undoubtedly open up whole new fields in the use of materials not now used in any quantity. As high-grade ores are depleted, we shall find ways to use (I hope, without rising costs) the great masses of low-grade ore in the world. I look also for greater recoveries from the sea.

In the long run, the earth and its fullness can supply man's needs. whether man survives and continues to improve his living standards will depend on whether he has sufficient insight, intelligence, and right-thinking to be able so to manage his relations and his resources as to avoid catastrophe.

NEW INCO SMELTER STACK

The recently completed 500-foot stack for the smelter at International Nickel's new mining project at Thompson, Manitoba, is one of the tallest landmarks in western Canada.

Washington Report

(Continued from Page 4)

ners believe they must be prepared "not only for hostilities but also the requirements of the emergency rehabilitation period."

Mr. Price also noted that the Administration will submit to Congress, presumably next year a plan to revamp the stockpile laws so that unneeded materials can be disposed of more easily. Under present rules, months or even years can elapse between the time stockpilers decided a material should be sold and Congress gives its approval.

End Inco Purchase Deal

In another stockpiling development, the Government announced agreements relieving it of obligations to buy about 26,000,000 pounds of nickel from the International Nickel Co. of Canada, Ltd

Under one agreement there was a flat cancellation of all deliveries due under a contract in which the Government agreed to pay International Nickel the market price for nickel, the General Services Administration said.

Under another, involving premium price payment for nickel produced from high cost marginal ores, the product will be diverted into the market instead of being delivered to the Government.

The Government, in turn, agreed to pay the company the difference between the market price and the contract premium price, with payment to be made in nickel oxide sinter which the Government already owns in excess amounts.

Nicaro Plant on Sale

Moving to get out of the nickel business, the GSA anounced it is putting the Government-owned Nicaro nickel plant in Cuba up for sale. It will receive purchase proposals until the close of business Dec. 1.

GSA said the plant has a "proven production capacity" of 50,000,000 pounds of nickel oxide powder and sinter a year. GSA has been operating the plant since it was reactivated in 1952.

Titanium Plant Offered

GSA is also seeking to dispose of the Government-owned Cramet titanium p'ant in Chattanooga, Tenn.

The multi-million dollar plant built in 1952 by Cramet, Inc. to produce at capacity 6,000 tons of titanium sponge annually has been surplus to federal needs since mid-1958.

Daily Metal Quotations for August, 1959

The following quotations are taken from the Daily Metal Reporter*

(In Cents Per Pound)

AUGUST	Copper					Tin		Lead		Zinc					Aluminum	Antimony	Silver
	Producers' Price Del. Conn.	Custom Smelters' or Outside Price	Electro f. o. b. Refinery	Lake Del.	Aver. Prompt Electrolytic Export Price f.a.s. N. Y.	Straits New York Spot	Straits New York Prompt	New York	Outside St. Louis	Prime West. f. o. b. E. St. Louis	Prime West. Del. N. Y.	Brass Spec. f. o. b. E. St. Louis	High Grade Delivered	Spec. High Grade Delivered	30-Lb. Ingot 99½% Plus (f. o. b.)	Domestic Spot 99.5% f.o.b. Laredo	(Cents Per Ounce) New York
3	30.00	29.50	29.35	30.00	28.00	102.00	102.00	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
4	30.00	29.50	29.35	30.00	28.00	101.75	101.75	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
5	30.00	29.50	29.35	30.00	28.00	101.75	101.75	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
6	30.00	29.50	29.35	30.00	28.50	101.75	101.75	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
7	30.00	30.00	29.60	30.00	28.875	101.625	101.625	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
10	30.00	30.00	29.60	30.00	29.50	101.50	101.50	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
11	30.00	30.00	29.60	30.00	30.00	101.75	101.75	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
12	30.00	30.00	29.60	30.00	30.00	101.75	101.75	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
13	30.00	30.00	29.60	30.00	30.00	102.125	102.125	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
14	30.00	30.00	29.60	30.00	30.00	102.50	102.50	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
17	30.00	30.00	29.60	30.00	29.50	102.50	102.50	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
18	30.00	30.00	29.60	30.00	29.50	102.50	102.50	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
19	30.00	30.00	29.60	30.00	30.00	102.50	102.50	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
20	30.00	30.00	29.60	30.00	Nom.	102.75	102.75	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
21	30.00	30.00	29.60	30.00	Nom.	102.875	102.875	12.00	11.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
24	30.00	30.00	29.60	30.00	Nom.	103.00	103.00	13.00	12.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
25	30.00	30.00	29.60	30.00	Nom.	102.875	102.875	13.00	12.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
26	30.00	Nom.	29.60	30.00	Nom.	102.875	102.875	13.00	12.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
27	30.00	Nom.	29.60	30.00	Nom.	103.00	103.00	13.00	12.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.375
28	30.00	Nom.	29.60	30.00	Nom.	103.00	103.00	13.00	12.80	11.00	11.50	11.25	12.00	12.25	26.80	29.00	91.625
31	30.00	33.00	31.10	30.00	Nom.	102.875	102.875	13.00	12.80	11.00	11.50	11.25	12.125	12.375	26.80	29.00	91.625
AV.	**30.00**	**30.056**	**29.624**	**30.00**	**29.221**	**102.345**	**102.345**	**12.286**	**12.086**	**11.00**	**11.50**	**11.25**	**12.006**	**12.256**	**26.80**	**29.00**	**91.399**
HI.	**30.00**	**33.00**	**32.60**	**30.00**	**30.00**	**103.00**	**103.00**	**13.00**	**12.80**	**11.00**	**11.50**	**11.25**	**12.25**	**12.50**	**26.80**	**29.00**	**91.625**
LO.	**30.00**	**29.50**	**29.10**	**30.00**	**28.00**	**101.50**	**101.50**	**12.00**	**11.80**	**11.00**	**11.50**	**11.25**	**12.00**	**12.25**	**26.80**	**29.00**	**91.375**

* When split quotations prevail the daily average price is listed. The highs and lows for the month take into consideration the levels reached at both sides of such ranges.

United States Duties on Principal Ore and Metal Imports

(Including Revisions in Effect June 30, 1957, Under Geneva Agreements)

(Quantities Are in Pounds Unless Otherwise Stated; n.s.p.f. Stands for "Not Specially Provided For.")

COPPER

NOTE — The excise tax of 4c a pound on copper (which was reduced to 2c a pound by the Geneva Trade Agreement) was suspended in April, 1947, until March 31, 1949, and on expiration it was further suspended until June 30, 1950. The tax was reimposed on July 1, 1950. It was suspended again on May 22, 1951, retroactive to April 1, 1951, and until February 15, 1953, and again until June 30, 1954. Suspension further extended to June 30, 1955, and again until June 30, 1958. If import tax is restored, the 1956 Geneva Agreement provides for 5% reductions effective on June 30 of 1956, 1957 and 1958, provided the price is above 24c; if the price is below 24c the 2c tax would prevail.

Copper ore and concentrates, usable as flux, etc., copper content	1.70c lb.
Copper ore and concentrates, product of Cuba, copper content	free
Copper ore and concentrates, product of Philippines, copper content	0.17c lb.
Copper ore and concentrates, copper content	1.70c lb.
Regulus, black, or coarse copper, and cement copper, copper content	1.70c lb.
Unrefined black, blister, and converter copper in pigs or converter bars, copper content	1.70c lb.
Refined copper in ingots, plates or bars, copper content	1.70c lb.
Copper rolls, rods or sheets	1¼c lb. (plus 1.70c lb. ††)
Copper seamless tubes and tubing	3½c lb. (plus 1.70c lb. ††)
Copper plain wire	12½% (plus 1.70c lb. ††)
Copper brazed tubes†	4.50c lb. (plus 1.70c lb. ††)
Old and scrap copper, fit only for remanufacture: and scale and clippings, copper content	1.70c lb.

†† Copper content.

BRASS

Brass rods, sheets, plates, bars, strips, Munts or yellow metal sheets, sheathing, bolts, piston rods, shafting and bronze rods, tubes and sheets	2c lb.
Brass tubes and tubing, seamless	2c lb.
Brass tubes, brazed, angles and channels	6c lb.
Brass and bronze wire	12½%

LEAD

NOTE — Import duties on lead-bearing ores, flue dust, and mattes of all kinds, lead bullion or base bullion, lead in pigs and bars, lead dross, reclaimed lead and antimonial lead were suspended February 12, 1952, and reimposed on June 26, 1952. Lead scrap duty was reimposed July 1, 1952.

Lead-bearing ores and mattes, n. s. p. f., lead content	¾c lb.
Bullion or base bullion, lead content	1 1/16c lb.
Pigs and bars, lead content	1 1/16c lb.
Reclaimed, scrap, dross, lead content	1 1/16c lb.
Babbitt metal and solder, lead content	1 1/16c lb.
Pipe, sheets, shot, glaziers' lead, and wire	1 5/16c lb.
Type metal and antimonial lead, lead content	1 1/16c lb.
White lead	1.05c lb.
Litharge	1¼c lb.
Red lead	15/16c lb.
Orange mineral	1c lb.

ZINC

NOTE — Import duties on zinc-bearing ores, and on zinc in blocks, pigs and slabs were suspended February 12, 1952, and reimposed on July 24, 1952. Tax on old zinc and dross and skimmings reimposed July 1, 1953.

Zinc-bearing ores, except pyrites containing not more than 3% zinc, zinc content	6/10c lb.
Zinc contained in zinc-bearing ores, n. e. s., not recoverable, zinc content	6/10c lb.
Zinc, old and worn out, fit only for remanufacture	¾c lb.
Dross and skimmings	¾c lb.
Zinc in blocks, pigs or slabs	7/10c lb.
Zinc in sheets	1c lb.
Zinc sheets, plated with nickel or other base metal, or solutions	1⅛c lb.
Zinc dust	7/10c lb
Zinc die-casting alloys	12½%
Zinc oxide and leaded zinc oxides containing not more than 25% lead, dry	3/5c lb.
ground in or mixed with oil or water	1c lb.

MISCELLANEOUS METALS AND ORES

Aluminum, metal and alloys, crude, except alloys elsewhere provided for†	1.25c lb.
Aluminum scrap	free
Aluminum plates, sheets, bars, rods, circles, squares, etc.†	2.50c lb.
Antimony ore, antimony content	free
Antimony metal and regulus	2c lb
Antimony needle or liquidated	¼c lb
Antimony oxide	1c lb
Antimony sulphides	½c lb. & 12½%
Arsenic, metallic†	2.50c lb.
Arsenious acid or white arsenic	free
Bauxite, crude*	free
Bauxite, refined**	¼c lb.
Bismuth	1⅞%
Bismuth salts and compounds	35%
Beryllium metal†	21%
Beryllium ore	free
Cadmium	3¾c lb.
Cadmium flue dust, cadmium content	free
Chrome ore or chromite	free
Chrome or chromium metal†	10½%
Cobalt metal	free
Cobalt ore and concentrates, cobalt content	free
Magnesium, metallic†	50%
Magnesium powder, sheets, wire†	17c lb. & 8½%
Magnesium alloys	20c lb. & 10%
Magnesium scrap	free
Manganese ores, containing over 10% manganese, manganese content	¼c lb., except Cuba, free
Molybdenum ore or concentrates, molybdenum content†	30c lb.
Nickel ore, matte and oxide	free
Nickel and alloys, nickel chief value, n. s. p. f., in pigs, ingots, shot, cubes, grains, cathodes, or similar forms	1¼c lb.
Nickel, bars, rods, plates, sheets, castings, strips, wire or electrodes	12½%
Nickel scrap	free
Nickel tubes, tubing (if cold rolled, drawn or worked — 2½% extra)	6¼%
Platinum, grain, nuggets, sponge and scrap, oz. troy	free
Platinum in ingots, bars, sheets, or plates, not less than ⅛ in. thick, oz. troy	free
Platinum, ores, platinum content, oz. troy	free
Quicksilver or mercury	25c lb.
Selenium and salts	free
Tantalum	12½%
Tin ore, cassiterite, and black oxide of tin, tin content	free
Tin in bars, blocks, pigs, grain, granulated, and scrap, and alloys, chief value tin, n. s. p. f.	free
Tungsten ore or concentrates, tungsten content	50c lb.

*Crude bauxite import duty suspended through July 15, 1960. **Under Public Law 25 alumina imported for use in aluminum production is free for entries from July 17, 1956 through July 15, 1960. †Tariff reduced 5% on June 30, 1958, under Geneva Agreement which expires on June 30, 1959.

Copper Statistics Reported by Copper Institute

Combined Totals in U. S. A. and Outside U. S. A.

(In tons of 2,000 pounds)

	Crude Production		Refined	Deliveries to	Refined Stock	Stock Increases or Decreases		
	Primary	Secondary	Production	Customers	End of Period	Blister	Refined	Total
1957								
Total	2,897,719	123,270	3,035,588	2,853,307	458,340	—14,599	+103,920	+89,321
1958								
August	224,673	9,474	217,914	247,116	436,476	+16,233	—38,688	—22,455
September	202,719	7,960	204,006	254,667	374,180	+ 6,673	—60,948	—54,275
October	204,938	20,613	192,199	292,630	269,654	+33,352	+105,126	—71,774
November	227,916	17,755	230,109	261,097	236,774	+15,562	—32,880	—17,318
December	253,512	8,883	282,191	260,841	258,874	—19,796	+22,100	+ 2,304
Total	2,707,926	138,696	2,805,622	2,916,588	258,874	+41,000	—199,466	—158,466
1959								
January	257,682	12,377	270,995	248,574	284,545	— 936	+22,001	+21,065
February	244,405	12,737	264,018	243,741	304,303	— 6,876	+19,578	+12,882
March	270,248	17,019	285,425	270,768	319,241	+ 1,842	+14,938	+16,780
April	265,937	15,653	278,959	270,262	329,871	+ 2,631	+10,630	+13,261
May	279,629	11,695	283,024	266,378	350,343	+ 8,300	+20,472	+28,772
June	277,855	12,347	284,420	294,232	345,429	+ 5,782	— 4,914	— 868
July	256,729	9,198	274,752	231,138	389,554	— 8,825	+44,125	+35,300
August	233,803	4,517	221,737	237,244	374,519	+16,583	—15,035	+ 1,548

In U. S. A.

1957								
Total	1,116,380	112,060	1,616,964	1,277,946	181,024	.....	+60,379	.....
1958								
July	64,444	8,858	110,130	77,523	242,781	.....	— 2,669	.....
August	67,917	8,999	100,640	86,982	215,560	.....	—27,221	.....
September	79,541	7,259	107,971	101,971	178,222	.....	—37,338	.....
October	92,214	19,865	113,288	120,793	128,490	.....	—49,732	.....
November	96,369	16,755	128,048	131,188	93,596	.....	—34,894	.....
December	97,641	7,911	146,978	116,310	80,722	.....	—100,302	.....
Total	1,008,170	131,294	1,446,540	1,179,416	80,722	.....	—12,874	.....
1959								
January	95,542	11,284	137,361	114,425	80,780	.....	+ 58	.....
February	88,432	11,425	142,235	120,134	85,523	.....	+ 4,743	.....
March	101,410	16,120	140,928	124,220	85,952	.....	— 2,751	.....
April	98,376	14,287	137,490	135,233	74,323	.....	— 8,629	.....
May	104,236	9,933	135,031	135,135	86,132	.....	+11,809	.....
June	99,419	11,352	138,403	150,117	85,674	.....	— 458	.....
July	81,662	8,323	134,020	108,127	103,432	.....	+17,558	.....
August	53,247	3,959	79,860	89,123	92,175	.....	—11,257	.....

Outside U. S. A.*

1957								
Total	1,783,119	11,210	1,418,624	1,575,361	277,316	.....	+43,541	.....
1958								
July	151,871	658	119,448	143,278	232,383	.....	+ 1,010	.....
August	156,756	475	117,274	160,134	220,916	.....	—11,467	.....
September	123,178	701	96,035	153,633	196,558	.....	—23,610	.....
October	112,724	748	78,911	171,827	141,164	.....	—55,394	.....
November	131,334	980	102,061	129,909	143,178	.....	+ 2,014	.....
December	155,871	972	135,213	144,531	178,152	.....	+34,974	.....
Total	1,699,756	7,402	1,359,082	1,737,172	178,152	.....	—99,164	.....
1959								
January	162,140	1,093	133,634	134,149	203,765	.....	+21,943	.....
February	155,973	1,312	121,783	123,607	218,780	.....	+15,015	.....
March	168,838	899	144,497	146,548	236,232	.....	+17,502	.....
April	161,561	1,366	141,469	135,029	255,548	.....	+19,259	.....
May	175,393	1,762	147,993	131,243	264,211	.....	+ 8,663	.....
June	178,436	995	146,017	144,115	259,755	.....	— 4,456	.....
July	175,067	857	140,732	123,011	286,122	.....	+26,367	.....
August	180,556	558	141,877	148,121	282,344	.....	— 3,778	.....

* Excluding Russia, Yugoslavia, Norway, Sweden, Japan and Australia.

Electrolytic Copper

Producers' Price, Del. Valley
Monthly Average Prices
(Cents Per Pound)

	1956	1957	1958	1959
Jan.	43.00	36.00	25.69	29.00
Feb.	44.03	33.318	25.00	29.972
Mar.	46.00	32.00	25.00	31.14
Apr.	46.00	32.00	25.00	31.50
May	46.00	32.00	25.00	31.50
June	46.00	30.955	25.36	31.50
July	41.56	29.25	26.125	30.587
Aug.	40.00	28.639	26.50	30.00
Sept.	40.00	27.031	26.50	....
Oct.	39.308	27.00	27.548	....
Nov.	36.00	27.00	29.00	....
Dec.	36.00	27.00	29.00	....
Aver.	41.992	30.183	26.31	....

Electrolytic Copper

Custom Smelters' Price, Del. Valley
Monthly Average Prices
(Cents Per Pound)

	1956	1957	1958	1959
Jan.	50.22	34.87	24.577	29.429
Feb.	52.07	32.273	23.557	30.361
Mar.	53.11	30.952	23.326	33.21
Apr.	48.88	31.24	23.66	32.84
May	44.221	30.163	23.865	32.00
June	40.00	29.60	25.52	31.477
July	38.14	28.39	29.231	29.52
Aug.	39.32	27.862	26.52	30.056
Sept.	39.00	25.948	26.355	....
Oct.	37.192	25.722	28.577	....
Nov.	35.95	25.435	29.829	....
Dec.	35.45	25.26	28.846	....
Aver.	42.797	28.93	25.905	....

Lake Copper

Producers' Price Delivered
Monthly Average Prices
(Cents Per Pound)

	1956	1957	1958	1959
Jan.	43.00	36.00	25.69	29.00
Feb.	43.783	33.182	25.00	30.00
Mar.	46.00	32.00	25.00	31.14
Apr.	46.00	32.00	25.00	31.50
May	46.00	32.00	25.00	31.50
June	46.00	30.955	25.00	31.50
July	41.68	29.25	25.75	30.587
Aug.	40.00	28.611	26.50	30.00
Sept.	40.00	27.00	26.50	....
Oct.	39.321	27.00	27.577	....
Nov.	36.00	27.00	29.00	....
Dec.	36.00	27.00	29.00	....
Aver.	41.975	30.162	26.251	....

Fabricators' Copper Statistics

(In tons of 2,000 pounds)

	Fabricators' Stocks of Refined Cop.	Unfilled Purchases of Refined by Fab. from Producers	Fabricators' Working Stocks	Unfilled Sales by Fabricators to Customers	Actual Copper Consmd. by Fabricators	Excess Fabricators' Stocks Over Orders Bkd.
1953						
Total	380,881	25,022	309,664	170,917	1,375,869	— 74,678
1954						
Total	360,526	58,125	304,619	136,581	1,231,840	— 22,549
1955						
Total	.....	.....	.....	.....	1,418,241	.....
1956						
Dec.	437,187	117,601	336,217	183,834	99,223	+ 34,737
Total	.....	.....	.....	.....	1,416,378	.....
1957						
Jan.	435,635	107,231	335,944	178,326	119,517	+ 28,596
Feb.	422,266	110,174	334,542	178,913	114,298	+ 18,985
Mar.	429,410	104,551	338,454	164,623	106,170	+ 30,884
Apr.	429,708	98,638	335,921	164,410	117,041	+ 28,015
May	434,852	92,943	336,697	170,476	115,355	+ 20,622
June	426,905	82,919	340,743	153,042	110,527	+ 16,039
July	432,918	85,728	341,684	144,410	77,991	+ 32,552
Aug.	429,627	82,768	344,315	144,375	110,323	+ 23,826
Sept.	425,168	80,436	344,530	144,538	106,927	+ 16,536
Oct.	420,130	80,774	341,869	138,420	119,161	+ 20,615
Nov.	428,520	68,249	345,832	128,719	98,725	+ 22,218
Dec.	430,171	75,627	347,465	138,631	83,067	+ 19,702
Total	.....	.....	.....	.....	1,279,086	.....
1958						
Jan.	445,514	57,917	348,426	123,756	94,642	+ 31,249
Feb.	452,673	52,342	351,035	128,330	86,625	+ 25,650
Mar.	448,125	71,693	346,875	141,387	83,694	+ 31,556
Apr.	450,442	76,602	347,607	145,623	79,613	+ 33,814
May	441,001	78,194	346,404	138,190	88,447	+ 34,601
June	433,526	72,383	330,301	145,162	109,011	+ 30,448
July	431,796	77,362	326,263	153,529	79,353	+ 29,366
Aug.	421,931	78,194	323,667	150,436	96,717	+ 26,022
Sept.	416,887	71,025	319,281	145,390	105,474	+ 28,941
Oct.	399,113	91,019	315,929	156,692	138,017	+ 17,511
Nov.	419,914	88,580	328,238	157,799	110,487	+ 22,457
Dec.	447,123	90,401	326,438	177,869	92,573	+ 35,217
Total	....	....	....	....	1,165,364	....
1959						
Jan.	457,387	101,182	337,761	172,698	108,556	+ 44,070
Feb.	459,046	123,321	390,522	183,113	116,565	+ 58,732
Mar.	449,441	130,785	334,904	211,547	133,259	+ 33,775
Apr.	463,582	125,250	337,282	204,618	120,680	+ 46,932
May	474,657	133,694	338,835	210,424	124,060	+ 59,092
June	492,072	111,229	343,585	191,875	133,702	+ 67,841
July	518,699	110,367	357,474	193,338	81,500	+ 68,254
Aug.	487,259	97,786	359,049	191,476	120,563	+ 34,520

Scrap Copper Receipts by Custom Smelters and Refineries in United States*

(In Short Tons)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Jan.	15,763	6,640	4,528	6,486	9,859	11,047	14,322	17,506	16,024	14,511
Feb.	12,500	5,153	3,633	10,337	8,490	15,198	14,497	11,145	9,518	14,712
Mar.	13,538	7,912	5,243	19,991	9,738	12,198	15,921	13,934	11,783	19,522
Apr.	12,304	8,553	6,214	16,583	9,004	13,162	17,233	14,288	15,279	17,525
May	8,749	8,458	8,033	10,857	8,687	15,133	20,805	12,397	13,989	13,960
June	20,523	8,628	4,425	10,945	13,309	14,765	14,758	11,949	13,945	15,065
July	10,040	6,642	5,188	9,063	10,260	9,988	12,632	8,926	12,185	11,201
Aug.	10,452	6,113	5,003	7,137	10,100	12,197	12,510	11,645	11,896	7,476
Sept.	4,903	3,561	4,667	9,042	10,641	15,037	9,518	9,756	9,268	....
Oct.	9,459	3,336	4,602	10,065	11,662	12,897	15,570	13,151	23,088	....
Nov.	9,237	3,179	4,724	7,815	10,879	9,865	11,369	11,146	16,425	....
Dec.	7,178	4,538	6,208	11,476	14,876	13,180	14,613	11,237	10,796	....
Total	142,067	71,812	62,470	129,798	127,449	154,714	173,748	147,080	164,196	....

* As compiled by Copper Institute.

Brass and Bronze Ingot Monthly Shipments

(NET TONS)

The following figures showing the combined shipments of ingot brass and bronze are compiled by the Ingot Brass and Bronze Industry and represent in excess of 95 per cent of the deliveries of the entire industry.

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Jan.	19,456	18,874	28,416	28,315	23,423	20,661	25,201	27,736	25,681	20,468	22,046
Feb.	15,026	18,487	27,168	24,211	25,429	19,920	25,349	24,949	20,769	17,413	23,746
Mar.	14,550	22,494	31,997	23,890	28,256	23,653	29,713	28,310	21,948	18,825	26,109
Apr.	10,695	22,118	30,473	22,547	25,044	24,746	27,641	25,808	23,507	18,009	26,115
May	11,114	23,643	33,267	21,740	21,660	22,269	23,708	23,437	22,037	17,191	23,967
June	9,696	25,093	33,817	21,274	20,818	22,348	23,141	18,842	18,888	17,962	22,922
July	10,220	21,609	32,016	18,947	19,321	17,074	18,513	17,364	16,695	16,658	20,346
Aug.	14,194	29,689	25,285	21,807	20,156	21,684	27,013	23,812	19,654	17,882	21,741
Sept.	16,208	28,811	22,285	22,770	21,463	22,464	26,349	20,929	19,670	20,540	....
Oct.	18,026	32,240	23,124	25,811	22,280	24,080	25,228	23,045	22,800	23,225	....
Nov.	18,488	31,748	23,544	23,441	21,806	23,061	25,102	21,818	19,767	20,758	....
Dec.	17,950	28,575	20,987	22,983	20,541	21,274	21,448	18,046	16,875	18,676	....
Total	175,643	303,563	332,378	277,736	271,251	263,233	298,406	274,096	248,297	227,607	....
Aver.	14,637	25,297	27,615	23,145	22,694	21,936	24,867	22,841	20,681	18,133	....

Mine Production of Copper in United States

(U. S. Bureau of Mines)
(In short tons)

	Eastern	Missouri	Western	Total
1956				
Ttl.	79,681	2,130	1,018,496	1,100,307
1957				
Dec.	6,962	67	81,080	88,109
Ttl.	79,369	1,800	995,753	1,076,922
1958				
Feb.	6,826	125	74,766	81,717
Mar.	7,517	123	79,594	87,234
April	7,035	161	76,911	84,107
May	6,522	152	71,717	78,391
June	5,801	155	62,296	68,252
July	4,188	132	56,672	61,222
Aug.	5,570	127	61,342	67,039
Sept.	5,312	114	77,561	82,987
Oct.	7,002	60	85,075	91,518
Nov.	6,617	60	87,379	94,056
Dec.	6,614	70	88,070	94,514
Ttl.	76,849	1,250	902,021	980,304
1959				
Jan.	6,590	126	90,386	97,102
Feb.	5,883	130	81,889	87,902
Mar.	6,513	140	91,499	98,152
Apr.	7,240	150	92,295	100,685
May	7,007	110	94,277	101,394
June	7,245	124	86,861	94,230
July	6,763	111	79,927	86,801

Average Custom Smelters' Scrap Buying Prices

(Cents per pound for carload lots del. consumers' works)

	No. 1 Copper Scrap	No. 2 Copper Scrap	Light Copper Scrap	Refinery Brass*
1958				
May	20.02	18.52	16.27	17.894
June	21.93	20.43	18.18	19.76
July	22.52	21.02	18.77	20.26
Aug.	22.62	21.12	18.87	20.12
Sept.	22.37	20.87	18.62	19.87
Oct.	24.80	23.30	21.05	22.30
Nov.	25.597	24.097	21.847	23.097
Dec.	24.356	22.856	20.606	21.856
Aver.	21.788	20.282	18.035	18.047
1959				
Jan.	25.29	23.79	21.54	22.79
Feb.	26.42	24.92	22.67	24.11
Mar.	28.79	27.29	25.04	26.79
Apr.	28.04	26.50	24.29	26.04
May	27.81	26.31	24.06	25.81
June	26.80	25.30	23.05	24.80
July	25.14	23.64	21.39	23.14
Aug.	25.762	24.762	22.012	23.762

*Of dry content for material having a dry copper content in excess of 60%.

Brass Ingot Makers' Scrap Copper Buying Prices

(Average Prices)
(Cents per pound del. refinery for 60,000 lbs. of each grade)

	No. 1 Copper Scrap	No. 2 Copper Scrap	No. 1 Composition	Heavy Yellow Brass
1958				
June	21.93	20.43	19.02	13.43
July	22.52	21.02	19.24	13.53
Aug.	22.62	21.12	19.11	13.80
Sept.	22.37	20.87	18.88	12.90
Oct.	24.80	23.30	20.51	14.938
Nov.	25.597	24.097	20.182	14.125
Dec.	24.356	22.856	19.038	13.038
Aver.	21.777	20.277	18.653	13.924
1959				
Jan.	25.29	23.79	19.70	13.982
Feb.	26.42	24.92	21.08	15.06
Mar.	28.79	27.29	22.85	16.85
Apr.	28.04	26.54	21.69	15.70
May	27.81	26.31	21.17	15.17
June	26.80	25.30	21.159	15.307
July	25.14	23.64	20.13	14.47
Aug.	25.762	24.262	21.286	14.81

Lead Statistics Reported by American Bureau of Metal Statistics

Lead Refineries in U. S. A. and Outside U. S. A.

(Recoverable Lead Content in Tons of 2,000 Pounds)

Combined U. S. A. and Outside U. S. A.

	REFINED PRODUCTION			DELIVERIES			STOCKS		
		Antimonial Lead			Antimonial Lead			Antimonial Lead	
1958	Pig	Content	Total	Pig	Content	Total	Pig	Content	Total
Sept. ..	116,283	8,806	125,089	121,929	7,986	129,915	279,172	18,080	297,252
Oct. ..	121,934	10,656	132,590	139,698	9,408	149,106	262,510	19,328	281,838
Nov. ..	120,951	8,971	129,922	112,495	9,381	121,876	273,033	18,918	291,951
Dec. ..	129,461	10,898	140,359	90,498	8,583	99,081	313,232	21,233	334,465
Total ..	1,485,282	106,383	1,591,665	1,307,390	102,697	1,410,087	.....	.....	.....
1959									
Jan. ..	129,604	9,755	139,359	114,038	10,014	124,052	328,719	20,974	349,693
Feb. ..	114,528	8,944	123,472	90,915	9,094	100,009	347,455	20,824	368,279
Mar. ..	123,549	8,747	132,296	118,050	9,403	127,453	362,493	20,168	382,661
Apr. ..	127,995	10,398	138,393	146,409	10,345	156,754	334,178	20,221	354,399
May ..	130,046	10,216	140,262	144,988	8,566	153,554	310,042	21,871	331,913
June ..	130,142	10,960	141,102	145,966	12,894	158,860	286,028	19,938	305,966
U. S. A.									
1958									
Sept. ..	38,508	4,525	43,033	65,301	4,516	69,817	215,389	11,991	227,380
Oct. ..	40,225	5,153	45,378	70,580	4,455	75,035	207,335	12,728	220,063
Nov. ..	36,572	3,621	40,193	44,834	4,181	49,015	217,728	12,352	230,080
Dec ..	39,504	4,307	43,811	31,869	3,737	35,606	239,049	13,417	252,466
Total ..	473,208	46,985	520,193	589,528	49,893	639,421	.....	.....	.....
1959									
Jan. ..	40,110	3,365	43,475	48,311	4,492	52,803	244,870	12,426	257,296
Feb. ..	35,084	4,145	39,229	40,881	4,073	44,954	254,229	12,961	267,190
Mar. ..	35,140	3,868	39,008	49,742	4,279	54,021	248,166	12,744	260,910
Apr. ..	35,072	5,167	40,239	60,312	5,072	65,384	234,187	13,578	247,765
May ..	34,483	4,359	38,842	78,398	4,598	82,996	209,558	13,950	223,508
June ..	31,786	5,296	37,082	75,568	7,122	82,690	177,598	12,424	190,022
Outside U. S. A.									
1958									
Sept. ..	77,775	4,281	82,056	56,628	3,470	60,098	63,783	6,089	69,872
Oct. ..	81,709	5,503	87,212	69,118	4,953	74,071	55,175	6,600	61,775
Nov. ..	84,379	5,350	89,729	67,661	5,200	72,861	55,305	6,566	61,871
Dec. ..	89,957	6,591	96,548	58,629	4,846	63,475	74,183	7,816	81,999
Total ..	1,012,074	59,398	1,071,472	717,862	52,804	710,666	.....	.....	.....
1959									
Jan ..	89,494	6,390	95,884	65,727	5,522	71,249	83,849	8,548	92,397
Feb. ..	79,444	4,799	84,243	50,034	5,021	55,055	93,226	7,863	101,089
Mar. ..	88,409	4,879	93,288	68,308	5,124	73,432	114,327	7,424	121,751
Apr. ..	92,923	5,231	98,154	86,097	5,273	91,370	99,991	6,643	106,634
May ..	95,563	5,857	101,420	66,590	3,968	70,558	100,484	7,921	108,405
June ..	98,356	5,664	104,020	70,398	5,772	76,170	108,430	7,514	115,944

Summary of Lead Statistics for United States

	Stocks (end of period)					Smelter Receipts			
		Base Bullion				Primary Origin			
Recoverable Lead Content In Tons of 2000 Pounds	Raw Material at Smelter	At Smelter & Transit	At Refinery and Process	Refined Pig and Antimonial	Total	U.S.A.	Outside U.S.A.	Scrap	Total
1958									
July	81,103	4,848	30,065	211,976	327,992	23,440	19,665	1,629	44,734
August ...	75,116	4,794	33,863	212,909	326,682	23,898	13,145	1,269	38,312
September .	70,290	4,948	32,606	227,380	335,224	21,775	14,937	1,673	38,385
October	58,863	4,773	29,833	220,063	313,532	19,630	9,205	3,699	32,534
November ;.	60,222	3,573	30,208	230,080	324,083	23,603	15,932	3,869	43,404
December ..	68,197	4,489	28,955	252,466	354,107	25,544	18,921	4,090	43,555
Total	....	....	....	.....	.....	297,687	191,415	29,080	518,182
1959									
January ...	69,015	4,243	31,577	257,296	362,131	24,931	19,185	3,167	47,283
February ..	58,921	2,919	35,062	267,190	364,092	22,934	8,435	1,772	33,141
March	65,478	4,283	33,815	260,910	364,486	22,258	21,368	1,426	45,052
April	61,779	4,424	31,596	247,765	345,564	22,868	11,344	1,214	35,426
May	52,115	3,370	32,693	223.508	311,686	22,072	5,330	2,008	29,410
June	55,472	7,454	27,020	190,022	279,968	24,610	12,690	2,444	39,744

	Smelter Production	Refined Productions			Deliveries to U. S. Fabricators including imports from sources reporting to ABMS		
1958		Pig	Antimonial	Total	Pig	Antimonial	Total
July	40,328	36,052	2,681	38,733	47,381	5,263	52,644
August	41,099	34,275	4,890	39,165	50,145	4,956	55,101
September	42,473	38,508	4,525	43,033	65,301	4,516	69,817
October	41,975	40,225	5,153	45,378	70,580	4,455	75,035
November	41,365	36,572	3,621	40,193	44,834	4,181	49,015
December	39,972	39,504	4,307	43,811	31,869	3,737	35,606
Total	512,323	473,208	46,985	520,193	589,528	49,893	639,421
1959							
January	45,938	40,110	3,365	43,475	48,311	4,492	52,803
February	40,655	35,084	4,145	39,229	40,881	4,073	44,954
March	38,138	35,140	3,868	39,008	49,742	4,279	54,021
April	38,614	35,072	5,167	40,239	60,312	5,072	65,384
May	38,722	34,483	4,359	38,842	78,398	4,598	82,996
June	35,807	31,786	5,296	37,082	75,568	7,122	82,690

United States Lead Statistics of Primary Refineries

(American Bureau of Metal Statistics)
(In tons of 2,000 lbs.)

	Stock At Beginning	Production Primary & Secondary	Total Supply	Stock At End	Domestic Shipments
1954	81,152	551,618	632,770	92,719	475,551
1955	28,855	547,153	639,872	31,089	531,339
1956					
Total	....	613,293	644,382	....	529,484
1957					
November	59,041	48,771	107,812	70,874	32,193
December	70,874	50,500	121,374	91,598	24,108
Total	....	604,353	645,534	....	463,060
1958					
January	91,598	47,665	139,263	101,206	33,422
February	101,206	47,133	148,339	119,522	23,832
March	119,522	43,441	162,963	128,754	28,885
April	128,754	40,984	169,738	143,136	22,172
May	143,136	47,487	190,623	155,121	30,021
June	155,121	44,636	199,757	163,504	32,078
July	163,504	38,827	202,331	164,860	31,948
August	164,860	39,520	204,380	169,302	34,254
September	169,302	43,269	212,571	170,666	41,657
October	170,666	45,467	216,133	169,435	46,647
November	169,435	40,485	209,920	179,321	30,591
December	179,321	44,042	223,363	198,538	24,852
Total	....	522,956	614,554	....	380,359
1959					
January	198,508	43,652	242,160	208,874	33,035
February	208,874	39,498	248,372	214,946	30,685
March	214,946	39,238	254,184	210,524	40,980
April	210,524	40,606	251,130	197,823	52,469
May	197,823	39,101	236,924	171,577	65,207
June	171,577	37,459	209,036	133,235	75,465
July	133,235	32,882	166,117	142,694	22,380

In instances where the figures are not in balance it is due to shipments to other than domestic consumers.

Industrial Classification of Domestic Lead Shipments

(American Bureau of Metal Statistics) (In tons of 2,000 lbs.)

	Cable	Amm.	Foil	Batt'y	Brass Making	Sundries	Jobbers	Unclassified
1955								
Total	72,418	27,599	2,622	88,461	3,960	52,994	13,034	270,251
1956								
Dec.	6,440	1,449	85	5,832	160	7,258	394	22,573
Total	80,360	24,501	1,435	70,614	3,158	56,851	13,213	274,716
1957								
Feb.	5,103	1,450	350	6,549	508	4,820	625	18,112
Mar.	5,956	752	...	6,479	686	4,614	1,064	18,674
April	6,731	2,250	....	6,242	909	2,958	1,040	17,453
May	6,976	2,200	120	4,705	270	3,871	634	16,558
June	3,726	2,250	75	3,762	666	5,071	1,087	20,620
July	5,249	1,650	105	5,332	566	5,310	1,110	19,260
Aug.	5,406	2,250	220	6,165	650	6,246	1,403	27,066
Sept.	4,880	2,700	295	6,722	850	5,782	891	29,739
Oct.	3,671	3,300	205	5,973	881	4,203	847	21,367
Nov.	2,950	2,500	85	3,126	493	3,800	706	18,533
Dec.	2,499	1,350	36	2,820	270	2,607	529	13,997
Total	58,444	25,452	1,691	64,761	7,420	53,284	11,127	240,881
1958								
Jan.	2,938	550	70	4,775	521	5,173	801	18,594
Feb.	2,899	1,750	70	5,124	90	1,643	888	11,368
Mar.	3,133	1,200	35	4,711	681	3,149	908	15,068
April	3,207	900	70	3,138	580	2,831	533	10,913
May	3,216	1,850	35	4,671	866	3,071	1,027	15,285
June	3,463	1,950	35	2,767	480	4,217	1,716	17,450
July	3,169	1,250	275	3,936	515	4,157	1,052	17,594
Aug.	3,481	2,415	70	4,992	400	6,399	100	16,397
Sept.	4,132	2,290	320	5,775	848	6,771	1,747	19,774
Oct.	3,243	2,450	...	4,548	285	6,210	1,641	28,270
Nov.	3,690	2,150	50	6,527	360	4,887	822	12,105
Dec.	2,267	2,100	50	6,216	215	2,578	652	10,774
Total	38,838	20,855	1,080	57,180	5,841	51,086	11,882	193,592
1959								
Jan.	2,284	2,100	100	5,594	161	3,545	727	18,524
Feb.	2,988	1,225	50	5,254	735	2,706	931	16,796
Mar.	3,156	1,850	105	5,905	378	6,006	2,185	21,395
April	3,686	2,150	35	7,410	691	5,356	1,966	31,355
May	4,054	2,900	35	6,870	475	7,990	2,843	40,040
June	5,272	3,210	70	12,515	180	8,009	3,663	42,546
July	850	295	70	2,570	315	3,166	997	14,117

Lead Prices at New York

(Common Grade)
Monthly Average Prices
(Cents per pound)

	1956	1957	1958	1959
Jan.	16.16	16.00	13.00	12.619
Feb.	16.00	16.00	13.00	11.583
Mar.	16.00	16.00	13.00	11.42
Apr.	16.00	16.00	12.00	11.20
May	16.00	15.385	11.712	11.905
June	16.00	14.32	11.24	12.00
July	16.00	14.00	11.00	12.00
Aug.	16.00	14.00	10.85	12.286
Sept.	16.00	14.00	10.89	....
Oct.	16.00	13.704	12.673	....
Nov.	16.00	13.50	13.00	....
Dec.	16.00	13.00	13.00	....
Aver.	16.013	14.66	12.114	....

Lead Sheet Prices

(To Jobbers, Full Sheets)
Monthly Average Prices)
(Cents per pound)

	1956	1957	1958	1959
Jan.	21.66	21.50	18.50	18.119
Feb.	21.50	21.50	18.50	17.083
Mar.	21.50	21.50	18.50	16.92
Apr.	21.50	21.50	17.50	16.70
May	21.50	20.885	17.212	17.405
June	21.50	19.82	16.74	17.50
July	21.50	19.82	16.50	17.50
Aug.	21.50	19.50	16.35	17.786
Sept.	21.50	19.50	16.39	....
Oct.	21.50	19.204	18.173	....
Nov.	21.50	19.00	18.50	....
Dec.	21.50	18.50	18.50	....

Battery Shipments

The following table shows replacement battery shipments in the United States as compiled by the Business Information Division of Dun & Bradstreet, Inc., for the Association of American Battery Manufacturers:

(In thousands of units)

	1956	1957	1958	1959
Jan.	2,058	2,638	2,004	2,672
Feb.	1,340	1,961	1,803	1,791
Mar.	1,348	1,254	1,577	1,376
Apr.	1,368	1,178	1,242	1,439
May	1,761	1,605	1,454	1,593
June	1,807	1,878	1,773	2,118
July	2,178	2,469	2,101	2,557
Aug.	2,571	2,856	2,333	....
Sept.	2,711	2,688	2,704	....
Oct.	3,015	3,042	2,976	....
Nov.	2,592	2,359	2,262	....
Dec.	2,265	2,015	3,036	....
Total	25,014	25,943	25,265	....

Lead Stocks at Primary U. S. Smelters and Refiners

(American Bureau of Metal Statistics)
(In tons of 2,000 lbs.)

	In ore and matte and in process at smelteries	—In base bullion (lead content)— At smelteries & refineries	In transit to refineries	In process at refineries	Refined pig lead	Anti-monial lead	Total Stocks
1957							
June 1..	81,364	11,585	3,071	21,002	48,286	9,799	175,107
July 1..	82,730	12,036	3,560	22,380	55,358	9,503	185,567
Aug. 1..	97,111	11,479	2,532	22,917	59,348	8,661	202,048
Sept. 1.	84,205	13,029	2,667	22,439	51,080	9,553	182,973
Oct. 1..	80,662	11,905	3,175	20,351	44,467	10,215	170,775
Nov. 1..	76,230	14,220	2,538	18,695	47,460	11,581	170,724
Dec. 1..	65,341	11,646	3,547	21,867	59,755	11,119	173,275
1958							
Jan. 1..	79,362	11,019	2,779	23,154	79,741	11,857	207,912
Feb. 1..	79,738	11,510	3,678	24,535	88,517	12,689	220,667
Mar. 1..	79,588	9,546	3,670	22,834	107,213	12,309	235,250
Apr. 1..	83,185	10,692	2,187	21,766	116,610	12,144	246,584
May 1..	86,053	11,838	2,138	20,524	130,668	12,468	263,689
June 1..	79,482	11,059	2,010	20,188	141,967	13,154	267,860
July 1..	80,060	9,012	1,570	22,092	150,648	12,856	276,238
Aug. 1..	83,347	12,438	860	21,615	154,378	10,482	283,379
Sept. 1.	77,416	14,767	1,176	20,444	158,413	10,889	283,105
Oct. 1..	72,724	14,797	2,223	18,125	159,662	11,004	278,535
Nov. 1..	61,819	11,492	1,086	19,041	157,385	12,050	262,873
Dec. 1..	62,960	11,072	1,565	20,941	167,493	11,828	275,859
1959							
Jan. 1..	72,378	10,917	1,767	19,746	185,913	12,595	303,316
Feb. 1..	72,832	10,565	1,889	21,317	197,085	11,789	315,477
Mar. 1..	62,383	11,707	1,447	21,479	202,835	12,111	311,962
Apr. 1..	68,433	14,352	350	20,575	198,459	12,065	314,234
May 1..	64,538	12,373	624	20,507	184,468	13,355	295,865
June 1..	55,223	12,239	766	20,391	157,981	13,596	260,196
July 1..	58,451	13,270	943	19,468	120,914	12,321	225,367
Aug. 1..	53,115	18,379	158	18,021	129,551	13,143	232,367

Receipts of Lead in Ore and Scrap
By U. S. Smelters (a)

(American Bureau of Metal Statistics) (In tons of 2,000 lbs.)

	——Receipts of lead in ore—— United States	Foreign	Total	Receipts of lead in scrap etc. (b)	Total receipts in ore, & scrap
1953 Total	351,183	155,788	506,971	42,994	549,965
1954 Total	336,291	158,081	494,372	49,864	544,236
1955 Total	341,595	172,966	514,561	42,996	557,557
1956					
Total	368,499	192,318	560,817	55,925	616,792
1957					
June	29,896	19,592	49,488	2,272	51,760
July	29,585	17,936	47,521	2,893	50,414
August	29,225	18,774	47,999	3,190	51,189
September	26,479	13,757	40,236	4,375	44,611
October	29,342	13,782	43,124	4,386	47,510
November	25,809	17,251	43,060	3,258	46,318
December	27,105	26,610	53,715	3,791	57,506
Total	356,409	206,901	563,310	42,537	605,847
1958					
January	25,537	22,097	47,634	3,507	51,141
February	23,789	16,400	40,189	2,184	42,373
March	21,735	20,038	41,773	3,154	44,927
April	25,104	15,821	40,925	1,913	42,838
May	27,427	10,228	37,655	1,867	39,522
June	28,577	13,811	42,388	1,366	43,754
July	22,289	19,692	41,891	1,615	43,596
August	22,984	13,043	36,027	1,252	37,279
September	20,654	14,576	35,230	1,765	36,995
October	18,678	9,093	27,771	3,577	31,348
November	24,024	14,541	38,565	3,933	42,498
December	24,366	18,804	43,170	3,982	47,152
Total	285,164	188,144	473,308	30,115	503,423
1959					
January	24,304	19,449	43,753	3,138	46,891
February	22,253	8,660	30,913	1,747	32,660
March	21,897	21,012	42,909	1,328	44,237
April	22,339	10,998	33,337	1,196	34,533
May	21,645	5,202	26,847	1,930	28,777
June	23,634	12,368	36,002	2,431	38,433
July	19,165	11,695	30,860	2,199	33,059

(a) Receipts of lead in ore are computed on the basis of recoverable lead. Owing to the estimational factor in this, which is probably on the low side, and also to the possibility that some lead receipts may escape attention, these monthly totals probably underrun the actual production of pig lead. (b) inclusive only of scrap smelted in connection with ore, plus some scrap received by primary refiners.

N. Y. Lead Price Changes

(Effective Date)

1951		Apr. 1	13.75
Oct. 2	**19.00	Apr. 12	14.00
1952		June 2	14.25
Apr. 29	18.00	June 15	14.00
May 2	17.00	Aug. 25	14.25
May 12	15.00	Sept. 7	14.50
June 23	15.50	Sept. 15	14.75
June 24	16.00	Oct. 4	14.875
Oct. 7	15.00	Oct. 5	15.00
Oct. 14	14.00	1955	
Oct. 22	13.50	Sept. 23	15.00-
Nov. 3	14.00		15.50
Nov. 10	14.20	Sept. 26	15.50
Nov. 11	14.50	Dec. 29	16.00
Nov. 20	14.25	1956	
Nov. 24	14.00	Jan. 4	16.50
Dec. 22	14.25	Jan. 13	16.00
Dec. 29	14.50	1957	
Dec. 31	14.75	May 9	15.50
1953		May 16	15.00
Jan. 7	14.50	June 11	14.00
Jan. 12	14.00	Oct. 14	13.50
Feb. 2	13.50	Dec. 2	13.00
Mar. 4	13.00	1958	
Mar. 10	13.50	Apr. 1	12.00
Apr. 7	13.00	May 14	11.50
Apr. 16	12.50	June 3	11.00
Apr. 21	12.00	June 18	11.50
Apr. 29	12.50	July 1	11.00
May 18	12.75	Aug. 13	10.75
May 19	13.00	Sept. 17	11.00
May 26	13.15	Sept. 30	11.50
June 11	13.50	Oct. 2	12.00
July 20	13.75	Oct. 8	12.50
July 23	14.00	Oct. 14	13.00
Sept. 16	13.50	1959	
1954		Jan. 21	12.00
Jan. 18	13.00	Feb. 11	11.50
Feb. 18	12.50	Feb. 24	11.00
Mar. 9	12.75	Mar. 5	11.50
Mar. 10	13.00	April 1	11.00
Mar. 26	13.25	April 20	11.50
Mar. 29	13.50	May 7	12.00
		Aug. 24	13.00

**OPS Ceiling.

Antimonial Lead Stocks at Primary Refineries

(A.B.M.S.)

(In tons of 2,000 pounds)

End of	1956	1957	1958	1959
Jan.	8,389	10,487	12,689	11,789
Feb.	9,095	10,220	12,309	12,111
Mar.	10,289	9,794	12,144	12,065
Apr.	10,690	9,391	12,468	13,355
May	10,902	9,799	13,154	13,596
June	9,452	9,503	12,856	12,321
July	10,924	8,661	10,482	13,143
Aug.	10,074	9,553	10,889	....
Sept.	11,181	10,215	11,004	....
Oct.	11,382	11,581	12,050	....
Nov.	11,832	11,119	11,828	....
Dec.	11,746	11,857	12,595	....

Antimonial Lead Production by Primary Refineries

(A.B.M.S.)

(In tons of 2,000 pounds)

End of	1956	1957	1958	1959
Jan.	5,045	5,113	3,743	3,541
Feb.	5,888	5,468	3,657	4,415
Mar.	5,526	5,091	3,527	4,098
Apr.	5,818	6,183	3,655	5,533
May	5,405	6,978	4,827	4,618
June	4,456	4,466	3,992	5,671
July	3,853	5,372	2,775	2,784
Aug.	5,343	7,967	5,244	....
Sept.	6,709	7,574	4,761	....
Oct.	5,378	6,148	5,849	....
Nov.	6,993	3,791	3,913	....
Dec.	5,766	3,290	4,539	....
Total	66,180	67,541	50,482	....

Lead Imports and Exports By Principal Countries

(A.B.M.S.)

Reported in pigs, bars, etc.; except where otherwise noted.

	1959		
IMPORTS	Apr.	May	June
U. S.* (s.t.)	24,258	36,205	26,135
Denmark	3,201	2,663	1,633
France	3,818	3,920	3,839
Germany, (W.)**	6,242	4,333	...
Italy††	1,927	...	...
Netherlands	2,321	2,333	3,633
Norway	675	...	...
Sweden	795	1,240	...
Switzerland	1,143	1,660	1,468
U. K. (l.t.)	23,538	14,364	...
India† (l.t.)	1,118	2,280	...
EXPORTS			
U. S.* (s.t.)	79	74	28
Canada (s.t.)	7,836	12,230	15,610
Denmark	1,265	920	382
France	1,032	444	1,109
Germany, (W.)**	1,741	3,021	...
Netherlands	481	392	275
Sweden	1,093	910	...
Switzerland	...	27	...
Northern Rhodesia† (l.t.)	718	714	1,070
Australia (l.t.)	13,379	15,882	5,982

* Refined.
** Includes scrap.
†† Includes lead alloys.
† British Bureau of Non-Ferrous Metal Statistics.

French Lead Imports

(A. B. M. S.)

(In metric tons)

	1959		
	May	June	July
Ore (gross weight)	11,169	9,399	12,581
Algeria	666	1,612	...
Morocco	10,503	6,787	11,356
Fr. Eq. Africa	...	1,000	1,225
Pig lead	3,920	3,839	3,568
Belgium	269	1,082	1,238
Germany (W.)	28	48	88
Netherlands	...	20	...
Algeria	...	4	26
Morocco	1,576	1,597	1,095
Tunisia	2,047	1,088	838
Australia	...	..	280
Other countries	...	...	3
Antimonial lead	279	38	285

U. K. Lead Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

	1959		
	May	June	July
(Gross Weight)			
Lead and lead alloys	14,364	8,947	26,001
Australia	8,965	2,324	22,059
Canada	3,765	4,678	2,842
Peru	...	100	100
Other countries	1,634	1,845	1,000

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in the
DAILY METAL REPORTER

U. S. Lead Consumption

(Bureau of Mines — In Short Tons)

Metal Products	1959 Jan.-June totals	May	June
Ammunition	22,727	3,841	3,674
Bearing metals	11,465	2,035	1,922
Brass and bronze	12,523	2,102	2,068
Cable covering	33,494	5,432	5,791
Calking lead	39,590	9,092	8,076
Casting metals	3,882	470	540
Collapsible tubes	4,570	915	919
Foil	1,893	297	375
Pipes, traps and bends	11,568	2,108	2,125
Sheet lead	14,434	2,585	2,511
Solder	33,021	5,107	6,075
Storage battery grids, posts, etc.	85,908	15,709	15,425
Storage battery oxides	86,539	14,076	15,567
Terne metal	1,038	113	202
Type metal	13,609	2,159	2,300
Total	**376,261**	**66,041**	**67,570**
Pigments:			
White lead	6,799	1,442	1,483
Red lead and litharge	40,401	7,006	7,145
Pigment colors	6,836	1,363	1,243
Other*	2,202	277	394
Total	**56,238**	**10,088**	**10,265**
Chemicals:			
Tetraethyl lead	79,645	15,106	13,079
Misc. chemicals	1,555	281	226
Total	**81,200**	**15,387**	**13,305**
Miscellaneous uses:			
Annealing	2,778	457	493
Galvanizing	680	161	153
Lead plating	103	32	8
Weights and ballast	3,433	608	580
Total	**6,994**	**1,258**	**1,234**
Other uses unclassified	**8,230**	**1,392**	**1,429**
Total reported†	**528,923**	**94,166**	**93,803**
Estimated unreported consumption	12,000	2,000	2,000
Grand total†	**540,900**	**96,200**	**95,800**
Daily average‡	**2,988**	**3,103**	**3,173**

* Includes lead content of leaded zinc oxide production
† Includes lead content of scrap used in fabricated products.
‡ Based on number of days in month without adjustment for Sundays and holidays ..

U. K. Lead Consumption

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 pounds)

	1957	1958	1959
Jan.	29,657	29,607	28,872
Feb.	29,219	27,855	25,968
Mar.	29,144	29,713	26,691
Apr.	27,246	26,230	29,252
May	31,574	28,839	27,280
June	28,607	28,624	30,099
July	27,604	27,201	26,851
Aug.	24,756	21,726	....
Sept.	29,519	28,829	....
Oct.	32,486	31,356	....
Nov.	31,060	28,786	....
Dec.	26,530	27,154	....
Total	**347,699**	**335,920**	....

American Antimony

Monthly Average Prices
In bulk, f.o.b. Laredo
(Cents per lb. in ton lots)

	1956	1957	1958	1959
Jan.	33.00	33.00	33.00	29.00
Feb.	33.00	33.00	30.818	29.00
Mar.	33.00	33.00	29.00	29.00
Apr.	33.00	33.00	29.00	29.00
May	33.00	33.00	29.00	29.00
June	33.00	33.00	29.00	29.00
July	33.00	33.00	29.00	29.00
Aug.	33.00	33.00	29.00	....
Sept.	33.00	33.00	29.00	....
Oct.	33.00	33.00	29.00	....
Nov.	33.00	33.00	29.00	....
Dec.	33.00	33.00	29.00	....
Aver.	**33.00**	**33.00**	**29.485**	....

Consumers' Lead Stocks, Receipts and Consumption

(Bureau of Mines — In Short Tons)

	Stocks May 31, 1959	Net Receipts in June	Consumed in June	Stocks June 30, 1959
Soft lead	88,834	83,042	63,416	108,460
Antimonial lead	35,912	23,255	21,358	37,809
Lead in alloys	6,742	4,071	4,215	6,598
Lead in copper-base scrap	1,016	1,626	1,619	1,023
Total	132,504	111,994	*90,608	153,890

* Excludes 2,852 tons of lead which went directly from scrap to fabricated products and 343 tons of lead contained in leaded zinc oxide production.

Consumption of Lead by Class of Product

(Bureau of Mines — In Short Tons)

JUNE

	Soft lead	Antimonial lead	Lead in alloys	Lead in copper-base scrap	Total
Metal products	38,279	20,692	4,189	1,619	64,779
Pigments	9,896	26	....	....	9,922
Chemicals	13,304	1	....	....	13,305
Miscellaenous	734	500	....	....	1,234
Unclassified	1,203	139	26	....	1,368
Total	63,416	21,358	4,215	1,619	*90,680

* Excludes 2,852 tons of lead which went directly from scrap to fabricated products and 343 tons of lead contained in leaded zinc oxide production.

Domestic Zinc Statistics

American Zinc Institute

Commencing with January, 1948, all regularly operating U. S. primary and secondary smelters are included in this report. Production from foreign ores also is included.

(Tons of 2,000 lbs.)

	Stock Beginning	Production	Shipments: Domestic	Shipments: Export & Drawback	Shipments: Gov't Acc't	Shipments: Total	Stock at End	Daily Avg. Prod.
1950 Tl.	94,221	910,354	849,246	18,189	128,256	995,691	8,884	2,494
1950 Mo. Avg.		75,863	70,770	1,516	10,688	82,974		
1951 Total	8,884	931,833	836,800	42,067	39,949	918,816	21,901	2,553
1951 Mo. Avg.		77,653	69,733	3,506	3,329	76,568		
1952 Total	21,901	961,430	803,343	56,202	36,626	896,171	87,160	2,627
1952 Mo. Avg.		80,119	66,945	4,683	3,052	74,681		
1953 Total	87,160	971,191	818,850	16,326	42,332	877,508	180,843	2,661
1953 Mo. Avg.		80,933	68,238	1,361	3,528	73,126		
1954 Total	180,843	868,242	787,922	27,929	108,957	924,808	124,277	2,379
1954 Mo. Avg.		72,353	65,660	2,327	9,080	77,067		
1955 Total	40,979	1,031,018	1,007,619	19,497	87,200	1,114,316	40,979	2,825
1955 Mo. Avg.		85,918	83,968	1,625	7,267	92,860		
1956 Total		1,062,954	869,270	9,027	157,014	1,035,311	68,622	2,904
1956 Mo. Avg.		88,850	72,439	752	13,085	86,275		
1957								
June	112,693	90,719	54,275	1,358	14,324	69,957	133,455	3,024
July	133,455	85,779	57,862	4,497	11,186	73,055	146,179	2,767
August	146,179	84,166	70,318	860	9,871	81,049	149,296	2,715
September	149,296	77,455	62,111	530	10,344	72,985	153,766	2,582
October	153,766	81,492	66,225	372	12,736	79,333	155,925	2,629
November	155,925	79,754	73,437	581	9,148	83,166	152,531	2,658
December	152,531	86,270	62,730	210	9,188	72,128	166,655	2,783
1957 Total		1,067,450	765,132	15,460	179,466	815,567		
1958								
January	166,655	82,343	58,211	641	9,805	68,657	180,346	2,656
February	180,346	68,354	49,072	446	9,993	59,511	189,189	2,441
March	189,189	72,274	48,948	111	8,763	57,822	203,641	2,331
April	203,641	70,214	46,598	159	5,927	52,684	221,171	2,340
May	221,171	71,018	51,390	129	....	51,519	240,670	2,291
June	240,670	66,967	54,487	171	....	54,658	252,979	2,232
July	252,979	65,119	60,312	55	....	60,187	257,911	2,101
August	257,911	62,927	68,718	591	....	69,309	251,529	2,030
September	251,529	63,705	76,905	213	....	77,118	238,116	2,124
October	238,116	65,304	93,018	226	....	93,224	210,176	2,107
November	210,176	65,174	83,394	212	....	83,606	191,744	2,172
December	191,744	75,503	76,862	148	....	77,010	190,237	2,432
1958 Total		828,902	767,755	3,102	34,488	805,325	....	....
1959								
January	190,237	76,481	70,770	171	....	70,941	195,777	2,467
February	195,777	71,174	65,641	849	....	66,490	200,461	2,542
March	200,461	79,918	73,814	482	....	74,296	206,083	2,578
April	206,083	76,393	78,358	255	....	78,613	203,863	2,546
May	203,863	77,489	85,073	275	....	85,348	196,004	2,500
June	196,004	75,544	99,858*	204	2,100	102,162	169,386	2,518
July	169,386	73,101	59,460	94	900	60,454	182,033	2,358
August	182,033	69,768	58,918	864	....	59,782	192,019	2,251

* Inflated by abnormal shipments on consignment of approximately 9,000 tons.

U. S. Consumption of Slab Zinc

Bureau of Mines

By Industries (Short Tons)

	Galvanizers	Die Casters	Brass products	Rolled zinc	Zinc oxide & other	Total
1950 Total	**434,094**	**281,285**	**136,451**	**67,779**	**27,656**	**947,365**
1951 Total	**386,373**	**266,442**	**141,456**	**64,000**	**28,738**	**887,009**
1952 Total	**375,563**	**236,022**	**155,311**	**51,508**	**30,885**	**849,289**
1953 Total	**408,162**	**305,846**	**177,201**	**53,784**	**35,037**	**977,636**
1954 Total	398,599	286,817	107,293	45,979	33,342	876,130
1955 Total	439,694	404,790	144,816	50,363	39,302	1,081,468
1956 Total	421,218	352,451	122,395	45,382	36,251	983,097
1957						
May	30,537	28,423	9,563	3,389	3,097	75,909
June	29,907	27,688	8,710	3,613	2,646	73,464
July	26,067	26,116	6,361	2,698	2,981	65,123
August	27,885	29,237	9,755	3,686	3,099	74,562
September	28,651	31,051	9,588	2,911	1,590	75,976
October	32,940	35,499	10,952	3,385	1,783	87,898
November	28,025	31,396	10,024	2,843	1,255	76,595
December	24,383	27,927	7,854	2,679	1,427	67,421
Total	355,796	358,543	111,114	39,544	20,486	924,063
1958						
January	26,861	26,348	9,115	3,183	1,664	69,295
February	24,598	22,629	7,279	2,716	1,316	60,347
March	27,171	19,045	6,871	3,138	1,724	59,978
April	27,464	17,829	6,392	3,259	1,295	58,432
May	30,935	18,316	6,597	2,896	2,263	61,907
June	34,377	21,497	6,643	2,961	2,212	67,690
July	30,677	17,387	6,275	2,848	1,920	60,007
August	34,663	20,382	8,358	3,379	1,901	70,033
September	34,048	25,188	9,624	3,458	770	74,122
October	36,513	27,682	11,753	3,845	881	81,919
November	31,658	27,311	10,067	3,276	826	74,302
December	31,746	29,926	10,529	3,681	1,018	78,082
Total	370,441	273,540	92,906	38,690	16,772	737,942
1959						
January	31,729	29,110	11,172	3,874	2,521	79,506
February	31,672	26,448	11,508	3,418	2,864	77,010
March	37,287	29,286	12,889	3,629	3,203	87,394
April	38,541	31,262	12,304	3,715	3,223	90,145
May	38,788	29,169	12,015	3,316	3,305	88,093
June	40,531	36,269	10,764	3,801	3,120	95,985

Prime Western Zinc Prices

(East St. Louis, f.o.b.)

(Cents per pound)

(In tons of 2,240 pounds)

	1956	1957	1958	1959
Jan.	13.46	13.50	10.00	11.50
Feb.	13.50	13.50	10.00	11.411
Mar.	13.50	13.50	10.00	11.00
Apr.	13.50	13.50	10.00	11.00
May	13.50	11.933	10.00	11.00
June	13.50	10.84	10.00	11.00
July	13.50	10.00	10.00	11.00
Aug	13.50	10.00	10.00	11.00
Sept.	13.50	10.00	10.00	....
Oct.	13.50	10.00	10.865	....
Nov.	13.50	10.00	11.386	....
Dec.	13.50	10.00	11.50	....
Aver.	**13.497**	**11.40**	**10.313**	....

High Grade Zinc Prices

(Delivered)

N. Y. Monthly Averages

(Cents per pound)

	1956	1957	1958	1959
Jan.	14.81	14.85	11.35	12.50
Feb.	14.85	14.85	11.35	12.411
Mar.	14.85	14.85	11.35	12.00
Apr.	14.85	14.85	11.084	12.00
May	14.85	13.283	11.00	12.00
June	14.85	12.19	11.00	12.00
July	14.85	11.35	11.00	12.00
Aug.	14.85	11.35	11.00	12.006
Sept.	14.85	11.35	11.00	....
Oct.	14.85	11.35	11.865	....
Nov.	14.85	11.35	12.386	....
Dec.	14.85	11.35	12.50	....
Aver.	**14.847**	**12.75**	**11.467**	....

U. K. Zinc Consumption

(British Bureau of Non-Ferrous Metal Statistics)

(In Tons of 2,240 Pounds)

	1957	1958	1959
Jan.	28,485	27,473	27,849
Feb.	26,276	24,551	25,676
Mar.	27,049	26,967	27,243
Apr.	24,247	24,984	28,006
May	29,589	24,579	26,167
June	25,202	25,587	30,221
July	25,934	23,794	26,318
Aug.	20,381	19,076	....
Sept.	27,792	26,747	....
Oct.	29,552	29,838	....
Nov.	26,705	26,432	....
Dec.	24,419	26,042	....
Total	**315,631**	**306,070**	....

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Mine Production of Zinc in United States

(U. S. Bureau of Mines)

(In short tons)

	Eastern States	Central States	Western States	Total U.S.*
1954				
Total	166,487	63,100	234,942	464,539
1955				
Total	163,230	73,630	277,811	514,671
1956				
Total	175,310	61,080	301,253	537,643
1957				
Total	196,877	29,506	290,151	520,128
1958				
Jan.	16,165	1,682	20,861	38,708
Feb.	13,652	1,365	18,528	33,545
Mar.	13,922	1,291	20,411	35,624
Apr.	15,719	1,311	22,375	39,405
May	15,580	1,314	18,940	35,834
June	14,931	1,490	16,650	32,971
July	13,427	——	15,985	29,442
Aug.	15,760	——	13,627	29,387
Sept.	14,857	——	15,279	29,865
Oct.	16,197	——	16,074	32,271
Nov.	15,393	——	16,998	32,391
Dec.	15,064	——	16,939	32,003
Total	181,202	8,450	213,267	402,919
1959				
Jan.	16,319	——	19,117	35,436
Feb.	16,405	——	19,304	35,709
Mar.	17,602	——	18,822	36,424
Apr.	18,521	——	19,149	37,670
May	18,500	——	19,170	37,670
June	17,501	——	18,443	35,944
July	12,697	——	17,204	29,901

*Includes Alaskan output in some months.

Mine Production of Lead in United States

(U. S. Bureau of Mines)

(In short tons)

	Eastern States	Central States	Western States	Total U.S.*
1953				
Ttl.	9,970	136,650	188,776	335,412
1954				
Ttl.	8,608	138,940	169,804	317,352
1955				
Ttl.	10,379	145,640	177,409	333,409
1956				
Ttl.	11,395	141,900	195,034	348,329
1957				
Ttl.	9,300	135,800	188,392	333,493
1958				
Feb.	542	11,356	11,734	23,632
Mar.	526	4,633	13,148	18,307
Apr.	487	12,438	12,739	25,664
May	626	11,660	11,939	24,225
June	615	10,662	11,499	22,776
July	454	10,019	10,662	21,135
Aug:	447	8,859	9,512	18,818
Sept.	389	7,734	11,221	19,344
Oct.	517	9,290	11,467	21,274
Nov.	606	10,500	11,823	22,929
Dec.	565	9,600	11,699	21,865
Ttl.	6,816	119,070	140,033	265,920
1959				
Jan.	469	9,748	13,180	23,397
Feb.	501	8,457	12,392	21,578
Mar.	601	7,943	12,585	21,129
Apr.	454	8,103	12,635	21,192
May	413	7,253	12,427	20,093
June	458	8,185	12,727	21,370
July	369	8,190	10,595	19,154

Mine Production of Gold in United States

(U. S. Bureau of Mines)

(In fine ounces)

	Eastern States	Western States	Alaska*	Total
1955				
Ttl.	2,026	1,634,625	247,535	1,884,186
1956				
Ttl.	1,998	1,607,930	204,300	1,814,228
1957				
Ttl.	2,174	1,556,450	210,000	1,768,624
1958				
Jan.	207	134,282	2,736	137,226
Feb.	147	116,392	59	116,598
Mar.	174	123,808	96	124,078
Apr.	192	124,705	906	125,615
May	203	124,490	557	125,520
June	182	122,277	8,484	130,943
July	38	116,775	29,735	146,528
Aug.	174	113,281	34,947	148,202
Sept.	156	128,613	38,960	167,459
Oct.	186	135,882	42,467	178,535
Nov.	—	——	——	——
Dec.	—	——	10,373	144,757
1959				
Jan.	—	——	1,003	145,077
Feb.	—	——	233	128,614
Mar.	—	——	106	135,192
Apr.	—	——	106	136,283
June	—	——	490	142,869

* Alaska totals based on mint and smelter receipts.

Mine Production of Recoverable Silver in United States

(U. S. Bureau of Mines)

(In Fine Ounces)

	Eastern States	Missouri	Western States	Alaska*	Total
1957					
Total	610,386	240,000	37,018,950	26,000	37,895,336
1958					
April	38,308	17,800	2,807,664	453	2,863,829
May	41,840	22,870	2,746,539	1,189	2,811,309
June	3,637	21,300	2,775,606	3,154	2,800,681
July	7,723	21,840	2,503,013	4,584	2,533,256
August	8,819	19,970	2,836,937	5,968	2,417,095
September	5,783	17,180	2,621,537	3,392	2,646,193
October	5,653	20,600	2,749,976	5,338	2,781,560
November	†	16,000	†	3,175	2,720,577
December	†	13,730	†	675	2,682,299
Total	†	210,000	†	28,000	33,022,225
1959					
January	†	21,000	†	132	2,751,918
February	†	18,060	†	154	2,892,032
March	†	17,200	†	10	2,965,289
April	†	17,600	†	15	2,957,890
May	†	15,900	†	68	3,033,726
June	†	17,900	†	798	2,732,808

† Figures not available.

* Alaska totals based on mint and smelter receipts.

Production of Primary Aluminum in the U. S.

(U. S. Bureau of Mines)

(In short tons)

	1952	1953	1954	1955	1956	1957	1958	1959
Jan.	76,934	89,895	116,247	128,203	140,394	147,029	139,910	156,708
Feb.	72,374	92,649	110,483	116,236	132,763	119,059	121,980	142,116
Mar.	77,069	104,460	122,339	130,272	145,895	135,706	134,019	157,189
Apr.	76,880	102,071	120,434	126,394	144,726	139,152	128,559	155,213
May	80,803	105,464	125,138	131,128	150,800	145,174	129,083	163,857
June	77,476	104,152	120,758	127,634	145,726	138,007	115,325	167,323
July	78,368	109,285	126,161	132,669	151,624	142,157	118,811	179,594
Aug.	85,175	110,545	125,296	133,551	92,406	143,449	125,416	....
Sept.	76,882	109,333	120,332	130,606	132,316	129,278	124,713	....
Oct.	77,312	108,219	125,089	134,655	149,125	133,759	139,847	....
Nov.	74,639	105,636	121,252	133,689	145,081	135,024	140,962	....
Dec.	83,419	110,291	127,056	140,748	148,391	140,033	153,301	....
Ttl.	937,330	1,252,013	1,460,565	1,565,721	1,679,427	1,647,710	1,565,556	....

U. S. Silver Production*

(A.B.M.S.)

(In thousands of ounces; commercial bars, 0.999 fine, and other refined forms)

	Dom.†	For.	Total
1954 Total	38,059	39,422	77,481
1955 Total	33,101	32,780	65,881
1956 Total	38,157	40,160	78,317
1957			
Total	36,279	34,932	71,211
1958			
January	3,520	3,551	7,071
February	3,589	2,790	6,379
March	2,465	3,568	6,033
April	3,123	3,056	6,179
May	2,597	2,660	5,257
June	3,243	3,210	6,453
July	2,127	2,494	4,621
August	2,651	3,235	5,886
September	2,614	3,165	5,779
October	3,831	2,750	6,581
November	2,505	3,283	5,788
December	3,275	3,652	6,927
Total	35,540	37,414	72,954
1959			
January	2,330	4,460	6,790
February	2,827	2,913	5,740
March	2,823	4,087	6,910
April	2,946	3,233	6,179
May	2,641	3,484	6,125
June	3,219	3,231	6,450
July	2,609	3,284	5,893

* The separation between silver of foreign and domestic origin on the basis of refined bars and other refined forms is only approximate.

† Includes purchases of crude silver by the U. S. Mint.

Average Silver Prices

(Cents per fine ounce)

	1956	1957	1958	1959
Jan.	90.357	91.375	89.449	90.19
Feb.	90.90	91.375	88.625	90.444
Mar.	91.128	91.375	88.625	91.351
Apr.	90.875	91.375	88.625	91.375
May	90.75	91.307	88.625	91.375
June	90.46	90.456	88.625	91.375
July	90.14	90.31	88.625	91.375
Aug.	90.614	90.909	88.625	....
Sept.	90.75	90.602	88.673	....
Oct.	90.722	90.625	89.966	....
Nov.	91.375	90.382	90.125	....
Dec.	91.375	89.80	89.932	....
Aver.	90.79	90.824	89.043	....

Note — The averages are based on the price of refined bullion imported on or after August 31, 1943.

U. S. Copper Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1959		
	May	June	July
Ore, conc., matte & other unref. (cont.)	456	37	20
Refined ingots, bars, etc.†	15,301	12,607	11,378
Canada	140	477	15
Cuba	1	...	...
Argentina	993	156	...
Brazil	3117	604	235
Denmark	145	129	112
France	3,594	2,189	2,780
Germany (W.)	3,752	3,038	4,770
Italy	1,414	1,494	1,067
Netherlands	280	1,120	112
Norway	392	308	...
Sweden	180	128	112
Switzerland	112	56	27
United Kingdom	2,770	1,469	1,713
Yugoslavia	...	560	...
Formosa	763	...	...
Japan	448	777	338
Australia	...	101	...
Other countries	..	1	97
Total Exports:			
Crude & refined	15,757	12,644	11,398
Pipes and tubes	48	39	84
Plates and sheets	30	28	12
Semifabricated forms	249	251	276
Wire, bare	429	493	502
Building wire and cable‡	172	119	164
Weatherproof wire‡	24	26	5
Insulated copper wire n.e.s.‡	5,725	894	1,139

† Includes exports of refined copper resulting from scrap that was reprocessed on toll for account of the shipper.

‡ Gross weight; n.e.s.—Not elsewhere specified.

U. S. Zinc Imports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1959		
	May	June	July
Zinc Ore (content)	41,875	45,768	47,432
Canada	11,683	11,003	17,256
Mexico	18,774	17,294	21,044
Honduras	142	362	...
Bolivia	51	...	674
Chile	34	...	...
Peru	8,121	11,105	7,193
Italy	1,250	...	...
Soviet Union	24	...	...
Spain	1,446	...	...
U. of S. Africa	...	715	377
Australia	283	5,202	687
Philippines	4	3	1
Other countries	63	84	200
Zinc blocks, pigs ,etc.	17,151	17,744	17,139
Canada	7,685	9,494	9,756
Mexico	1,561	1,211	1,179
Peru	3,529	1,493	1,894
Belgium	...	2,451	190
Italy	220	771	441
Yugoslavia	220	882	253
Belgian Congo	1,535	882	185
Rhodesia & Nyasaland	...	560	...
Australia	2,401	...	3,241
Total Imports:			
Zinc ore, blocks, pigs	59,026	63,512	64,571
Dross and skim.	49	11	134
Old and worn out	...	...	12

U. S. Lead Imports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1959		
	May	June	July
Ore, matte, etc. (content)	4,470	12,257	11,891
Canada	2,591	2,127	3,249
Mexico	34	32	122
Guatemala	...	...	146
Honduras	197	225	361
Bolivia	398	...	604
Peru	739	5,205	2,070
U. of S. Africa	...	3,652	3,090
Australia	436	1,010	2,177
Philippines	53	6	36
Other countries	22	...	36
Base bullion (content)	...	...	2
Other countries	..	...	2
Pigs and bars	36,205	26,135	23,404
Canada	5,272	9,657	3,104
Mexico	12,832	5,569	6,715
Peru	5,624	4,554	2,051
France	...	...	83
Spain	...	952	...
Sweden	330	...	...
United Kingdom	...	...	313
Yugoslavia	6,870	546	4,179
Australia	5,277	4,731	6,959
Other countries	...	126	...
Total Imports:			
Ore base bullion, refined	40,675	38,392	35,297
Lead scrap, dross, etc. (cont.)	245	1,253	420
Antimonial lead & typemetal	610	690	2
Lead content thereof	491	635	2

U. S. Zinc Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1959		
	May	June	July
Ore, conc. (content)	1	...	...
Slabs, blocks etc.	124	151	146
Canada	3	4	...
Mexico	55	...	...
Brazil	...	48	...
Chile	...	15	...
United Kingdom	45	84	140
Other countries	21	...	6
Total Exports:			
Ore, conc., slabs, blocks	125	151	146
Scrap, ashes, dross and skimmings	238	561	850
Battery shells and parts, unassembled	10	28	60
Rolled in sheets, plates and strips and die castings	319	259	205
Zinc & zinc alloys in crude and semifabricated forms	44	19	69
Zinc Oxide	212	314	206

Comparative Metal Prices

	Av. 1939	OPA Av. 1946	1959 Sept. 21
Copper, domestic Electro., Del. Val.	11.20	14.375	30.00-33.00
Lead (N. Y.)	5.05	8.25	13.00
P. W. Zinc (E. St. Louis, f.o.b.)	5.05	5.05	12.00
New York, del.	...	...	12.50
Tin Spot Straits, N. Y.	...	...	102.625
Aluminum ingot 99½%+	20.00	15.00	26.80
Antimony (R.M.M. brand f.o.b. Laredo)	12.36	14.50	29.00

U. S. Copper Imports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1959		
	May	June	July
Ore, matte & regulus (cont.)	3,974	12,112	5,331
Canada	34	921	1,908
Mexico	116	163	188
Cuba	...	1,175	...
Argentina	9	..	15
Bolivia	1	317	268
Chile	1,687	520	1,575
Peru	347	332	579
Cyprus	1,739	1,786	...
Philippines	...	2,739	...
U. of S. Africa	...	4,159	798
Australia	22	...	...
Other countries	19	...	...
Blister copper (content)	18,879	27,757	27,860
Mexico	1,866	3,299	3,283
Chile	15,902	17,532	16,632
Peru	...	...	610
Rhodesia & Nyasaland	...	5,259	6,773
U. of S. Africa	1,111	1,667	556
Other countries	...	...	6
Refined cathodes and shapes	11,777	19,320	10,742
Canada	8,566	9,562	4,112
Mexico	161	1,595	330
Chile	...	2,000	939
Peru	1,332	1,503	1,998
Belgium	28	56	1,250
Germany (W.)	280	1,792	...
Sweden	...	104	...
United Kingdom	...	559	...
Belgian Congo	300	940	1,200
Rhodesia & Nyasaland	410	1,148	913
U. of S. Africa	700	61	...
Total Imports:			
Crude & refined	34,630	59,189	43,933
Old and scrap (content)	709	793	523
Composition metal (content)	...	...	2
Brass scrap and old (cu. cont.)	473	351	95

U. S. Copper Scrap Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1959		
	May	June	July
Copper scrap, unalloyed* (new and old)	796	200	219
Canada	114	33	118
Argentina	274	...	...
France	59	...	...
Germany (W.)	86	44	20
Hungary	27	27	...
Italy	28	...	...
Netherlands	22	...	...
India	153	...	...
Japan	33	68	53
Other countries	...	28	28
Copper-base scrap, alloyed† (new and old)	3,077	3,212	2,092
Canada	...	3	31
Mexico	...	3	...
Germany (W.)	311	311	170
Netherlands	37	78	16
Spain	21	...	...
India	121	78	102
Japan	2,483	2,600	1,709
Hong Kong	61	139	61
Other countries	43	...	3

* Ash, brass mill, clippings, dross, flue dust, residues, scale, skimmings, wire scrap.

† Copper-base alloys, including brass and bronze—Ashes, clippings for remanufacture, cupro-nickel scrap, cupro-nickel trimmings, nickel silver scrap, phosphor bronze, phosphor copper, skimmings, turnings, round.

World Production of Copper

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States (a)	Canada (b)	Mexico (crude) (c)	Chile (d)	Peru (d)	Fed. Rep. of Germany (e)	Norway (f)	United Kingdom (g-h)	Yugoslavia (c)	India (f-h)	Japan (e)	Turkey (f)	Australia (e)	Northern Rhodesia (e)	Union of South Africa (d)
1955															
Total	1,036,702	326,599	61,583	447,288	35,478	286,805	14,876	138,271	31,151	8,432	124,908	26,313	41,935	350,302	47,176
1956															
Total	1,133,134	356,251	69,918	506,251	35,005	279,461	16,457	127,365	32,390	8,827	139,062	27,101	55,711	435,186	47,914
1957															
Total	1,115,483	360,745	42,905	....	46,141	255,710	17,265	121,799	37,186	9,298	143,654	27,101	55,633	499,418	47,828
1958															
Feb.	87,130	30,639	4,849	39,648	3,235	21,792	1,340	11,495	3,054	756	10,806	1,509	4,045	36,364	4,708
Mar.	90,336	34,190	5,954	40,205	3,497	25,161	1,569	9,559	6,023	821	10,195	2,580	5,555	44,847	4,731
April	86,123	32,635	6,101	16,115	4,010	23,286	1,463	9,884	3,149	788	8,515	2,942	6,220	41,396	4,413
May	80,628	32,471	6,141	23,264	3,481	24,543	1,636	7,095	2,957	786	9,806	2,574	6,229	41,615	4,488
June	71,092	32,418	5,954	34,811	3,405	23,128	1,674	7,414	3,102	769	10,617	1,810	6,819	44,447	4,018
July	64,444	31,131	5,995	40,495	3,780	24,418	1,610	9,091	3,245	801	10,762	1,136	6,139	44,010	3,324
Aug.	67,917	50,867	6,340	45,211	3,646	26,409	1,855	3,451	2,838	786	11,053	....	6,220	42,000	4,974
Sept.	79,541	27,546	6,294	40,913	3,637	24,649	1,749	12,027	2,870	792	12,583	....	....	17,291	4,726
Oct.	92,214	22,572	5,380	47,230	2,950	27,635	1,618	11,225	3,616	809	13,310	....	....	....	4,749
Nov.	96,369	20,368	5,040	46,310	3,923	24,932	1,594	8,542	3,462	774	11,764	....	....	25,612	4,249
Dec.	97,641	19,023	5,066	46,284	3,196	25,569	1,597	9,042	2,929	832	15,054	....	....	45,935	4,406
Total	1,881,170	346,816	68,386	462,064	42,750	295,312	19,529	106,134	37,116	9,062	136,612	24,676	72,361	426,513	53,090
1959															
Jan.	95,542	24,669	5,342	44,579	3,115	25,945	1,724	7,356	3,685	679	17,385	2,469	5,349	48,699	4,600
Feb.	88,432	28,016	4,810	43,589	1,627	24,289	1,599	9,211	3,521	557	11,388	1,614	5,930	44,420	4,339
Mar.	101,410	32,427	4,771	44,554	1,601	26,959	1,694	8 654	3,536	810	10,746	2,034	4,573	51,630	4,611
April	98,376	32,130	5,201	42,715	4,250	26,859	1,870	11,259	3,593	763	17,938	2,320	7,419	48,150	4,528
May	104,236	32,622	5,275	46,083	3,770	25,358	1,771	7,693	3,503	764	18,510	....	....	53,067	4,676
June	98,419	33,596	5,847	46,901	3,357	24,736	....	12,159	....	776	18,628	....	....	53,895	....
July	81,835	....	5,755	....	3,676	....	....	....	....	....	....	....	....	46,806	....

(a) Reported by Copper Institute. Crude, "recoverable contents of mine production or smelter production or shipments, and custom intake." Does not include intake of scrap nor of imported ore except that received from Cuba and Philippines. (b) Blister copper plus recoverable copper in concentrates, matte, etc., exported. (c) Crude copper, i. e., copper content of blister or converter copper as originally produced in the several countries, although some of it may be refined at home; e. g., in Rhodesia. (d) Blister and/or refined. (e) Refined. There are quantities of scrap included in the electrolytic production in addition to that reported, tonnage of which is not obtainable. (f) Smelter production. (g) Refinery production from imported blister only. (h) British Bureau of Non-Ferrous Metal Statistics. * Refined.

World Production of Refined Lead

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States	Canada	Mexico	Peru	Belgium	France	Fed. Rep. of Germany	Italy	Spain	Yugoslavia	Japan	Australia (a)	French Morocco	Tunisia	Rhodesia	Total
1955																
Total	547,153	148,811	221,138	67,303	91,241	73,251	162,508	46,806	67,509	83,347	40,912	254,558	28,870	28,620	17,976	1,893,125
1956																
Total	613,293	147,865	213,524	61,917	111,479	73,251	178,713	42,780	64,824	83,507	51,019	256,300	30,993	26,623	17,024	1,984,344
1957																
Total	604,533	142,935	218,266	55,971	....	94,509	195,136	42,336	61,332	85,313	59,670	261,035	34,442	27,069	12,364	2,041,530
1958																
Feb.	47,133	11,432	18,341	5,306	8,347	7,959	15,939	4,433	5,337	7,452	4,352	23,628	3,326	2,781	1,176	167,791
Mar.	43,441	12,837	18,455	6,899	8,773	7,890	16,548	4,597	6,392	8,600	4,335	26,359	3,375	1,174	1,204	171,654
April	40,984	11,785	21,099	5,626	8,917	8,858	15,144	4,652	6,281	7,021	3,481	19,876	2,338	2,394	1,204	160,946
May	47,487	12,212	21,005	5,421	9,058	8,339	16,327	2,402	6,944	7,482	3,541	25,035	3,532	2,978	1,204	174,255
June	44,636	12,706	17,846	6,255	8,264	7,977	15,194	3,677	6,403	6,469	3,461	22,979	2,906	3,127	1,232	164,278
July	38,827	7,175	18,315	6,880	8,548	8,319	11,229	4,581	6,327	6,872	3,567	21,563	2,767	568	1,232	147,624
Aug.	39,250	6,940	17,991	6,100	7,495	15	13,760	4,584	6,913	5,414	3,610	19,942	2,584	2,756	1,176	140,501
Sept.	43,269	10,908	16,256	5,192	7,849	8,202	15,700	4,367	5,692	6,942	3,587	22,632	2,184	2,369	1,120	158,285
Oct.	45,467	12,598	11,968	5,074	7,940	9,308	17,130	4,639	7,121	9,242	3,522	22,482	3,560	2,410	1,176	164,818
Nov.	40,486	10,645	17,067	6,448	9,495	9,068	17,785	4,825	6,914	11,155	3,555	20,148	2,625	2,519	1,120	165,406
Dec.	44,042	11,076	20,902	5,344	10,342	10,351	18,370	5,101	7,069	11,212	3,769	21,492	4,002	2,779	1,120	179,309
Total	575,612	130,886	246,443	80,999	119,192	111,337	223,973	60,860	77,490	92,903	52,915	271,654	42,266	32,359	16,492	1,955,753
1959																
Jan.	43,662	14,073	19,031	4,951	10,761	6,694	18,658	4,636	6,215	4,082	6,086	24,470	2,575	1,068	1,344	169,256
Feb.	39,498	12,740	15,472	2,662	9,460	5,812	17,869	4,437	6,020	8,596	6,474	22,037	2,319	1,765	1,344	157,928
Mar.	39,238	13,704	16,305	3,424	8,447	6,733	17,553	3,168	6,196	8,153	6,889	20,144	1,905	2,429	1,344	156,914
April	40.606	13,655	16,621	4,438	8,038	5,541	17,141	4,942	6,491	6,876	6,615	23,919	2,726	2,155	1,344	162,611
May	39,101	13,357	16,934	6,606	8,797	7,363	17,728	3,614	7,435	8 369	6,435	23,499	2,050	1,784	1,344	.....
June	37,459	....	20,000	6,540	9,125	6,976	18,126	2,453	....	....	6,358	....	1,552	926	1,344	.....
July	32,882	....	17.099	6,401	....	....	....	....	....	....	....	....	....	....	....	.....

(a) Production credited to Australia includes lead refined in England from Australian base bullion.

World Production of Slab Zinc

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States (a)	Can. (b)	Mexico	Peru (b-c)	Belgium	France (a)	Fed. Rep. of Germany	Great Britain	Italy	Netherlands	Norway (b)	Spain	Yugoslovia	Japan (a)	Australia (b)	Rhodesia (b)	Total (d)
1955																	
Total	1,031,018	257,008	61,879	18,943	233,623	123,623	197,024	90,917	77,761	31,202	49,724	26,244	15,175	122,965	113,221	31,248	2,534,457
1956																	
Total	1,062,954	255,601	62,136	10,428	251,906	124,105	204,961	90,784	80,407	32,123	53,170	25,224	15,434	153,821	117,445	32,396	2,630,383
1957																	
Total	1,574,500	247,356	62,354	35,772	259,701	148,455	202,627	85,348	81,179	32,786	52,787	24,279	30,256	152,145	123,587	33,040	2,691,699
1958																	
Feb.	68,354	19,743	4,985	2,669	22,026	12,028	15,562	6,599	5,275	2,659	4,030	1,975	2,797	12,072	9,642	2,576	199,114
Mar.	72,274	22,314	5,620	2,782	21,453	13,786	16,743	7,584	6,549	2,709	3,851	2,045	3,013	13,217	10,707	2,856	214,049
April	70,214	20,989	5,289	2,597	20,886	14,985	15,693	8,018	6,925	2,586	3,850	2,207	2,853	9,305	10,424	2,772	204,625
May	71,018	21,269	5,254	2,699	20,949	15,279	16,128	6,343	7,202	2,442	3,962	2,372	2,871	13,504	10,918	2,856	211,529
June	66,967	20,354	5,016	2,429	20,094	14,243	15,663	7,202	7,731	2,221	3,307	2,309	2,854	14,040	10,988	2,744	204,067
July	65,119	20,878	5,285	2,520	19,556	14,295	16,210	7,140	5,879	2,471	3,815	2,296	2,928	15,835	10,742	2,884	203,828
Aug.	62,297	21,152	5,216	2,822	18,308	14,253	16,204	6,689	5,991	2,533	3,793	2,259	2,820	12,420	11,075	2,912	.....
Sept.	63,705	20,531	5,025	2,840	17,961	12,232	15,635	6,887	5,991	2,533	3,793	2,259	2,820	12,420	11,075	2,912	199,142
Oct.	65,304	21,125	5,344	2,305	17,866	14,176	16,462	6,046	6,442	2,820	4,915	2,313	2,793	14,436	11,045	2,940	203,169
Nov.	65,174	20,274	5,197	2,625	18,696	13,274	16,196	6,158	5,874	2,249	4,669	2,244	3,370	13,501	10,508	2,828	197,481
Dec.	75,503	21,705	5,537	2,686	19,402	13,844	17,090	7,564	6,344	2,332	4,755	2,262	2,684	12,473	10,860	2,856	213,093
Total	892,607	254,661	18,354	34,685	257,540	177,422	210,408	80,494	5,955	2,841	54,423	26,750	34,446	166,883	128,548	39,508	2,464,639
1959																	
Jan.	76,481	21,456	5,476	2,753	19,857	13,903	17,164	5,955	5,617	2,693	4,826	2,028	2,647	11,679	10,541	2.800	211,506
Feb.	71,174	19,709	4,915	1,497	19,838	13,491	15,632	6,123	4,735	2,927	4,928	1,926	2,510	14,105	9,617	2,548	199,495
Mar.	79,918	22,135	5,439	2,363	20,215	14,230	17,325	7,797	6,801	2,921	4,917	2,369	3,014	13,217	10,759	2,800	221,316
Apr.	76,393	21,512	5,225	2,502	20,408	14,087	16,426	6,030	7,039	2,816	3,621	2,239	2,509	15,645	10,472	2,716	.....
May	77,489	21 147	5,108	2,545	21,181	13,902	16,633	6,595	7,790	2,823	4,798	2,273	2,701	16,135	11,137	2,744	.....
June	75,544	21.250	4,776	2,524	21,004	14,120	16,185	8,271	7,164	2,899	4,759	....	....	15,836	10,899	2,716	.....
July	73,101	21,055	5,038	2,634	....	....	....	6,112	....	2,917	4,539	....	....	....	....	....	.....

(a) Partially electrolytic. (b) Entirely electrolytic. (c) Beginning 1954 both electrolytic and electrochemic. (d) The above totals omit production in Russia, Czechoslovakia, Poland and in Argentina.

U. K. Stocks of Zinc

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

At start of:	Virgin Zinc 1958	Virgin Zinc 1959	Zinc Conc. 1958	Zinc Conc. 1959
Jan.	44,926	34,166	79,349	56,371
Feb.	43,308	34,805	82,125	58,518
Mar.	46,662	36,850	87,721	57,897
Apr.	46,608	38,457	84,631	52,151
May	47,251	38,643	80,964	47,936
June	50,539	37,713	74,470	41,954
July	49,613	38,297	71,553	45,640
Aug.	48,497	37,427	70,105	43,948
Sept.	45,590	....	63,909	....
Oct.	45,784	....	57,376	....
Nov.	39,341	....	53,371	....
Dec.	35,396	....	58,022	....

U. K. Zinc Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

(Gross weight)	1959 May	1959 June	1959 July
Zinc ore and conc.	4,519	29,922	13,846
Zinc conc.‡	1,083	12,561	‡
Australia	30	11,310	...
Peru	95	740	...
Burma	958	511	...
Zinc and zinc alloys:			
(Gross Wt.)	12,764	15,554	12,765
Rhodesia-Nyasaland	300	175	175
Australia	825	800	1,789
Canada	5,491	7,283	6,451
Belgium	2,515	1,549	689
Germany (W.)	...	1,075	10
Netherlands	500	50	75
Soviet Union	1,187	1,510	956
United States	381	255	566
Belgian Congo	700	650	1,000
Other countries	865	2,207	1,054

† British Bureau of Non-Ferrous Metal Statistics. The estimated zinc content is not the content of the gross weight as officially reported for any comparable period.

U. K. Copper Exports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

(Gross Weight)	1959 May	1959 June	1959 July
Copper unwrought —ingots, blocks, slabs, bars, etc.	4,248	4,704	5,116
Plates, sheets, rods, etc.	1,529	1,573	1,578
Wire (including uninsulated electric wire)	327	375	272
Tubes	1,255	1,111	1,064
Other copper, worked (including pipe fittings)	58	92	147
Total	7,417	7,855	8,177

Copper Consumption in United Kingdom

British Bureau of Non-Ferrous Metal Statistics

(In tons of 2,240 pounds)

	Unalloyed	Alloyed*	Total	Virgin	Scrap
1956 Total	388,167	251,312	639,479	500,794	138,685
1957 Total	407,326	234,158	641,484	507,493	133,991
1958					
March	33,491	19,580	53,071	41,539	11,532
April	36,722	19,100	55,822	43,784	12,038
May	35,810	18,423	54,233	43,571	10,662
June	39,277	18,141	57,418	46,080	11,338
July	36,743	17,091	53,564	42,373	11,191
August	28,416	13,756	42,181	33,073	9,108
September	42,813	18,596	61,408	52,018	9,390
October	43,402	21,788	65,190	53,937	11,253
November	40,987	19,232	60,219	47,932	12,287
December	37,580	19,118	56,698	45,968	10,730
Total	442,977	225,001	667,978	534,619	133,359
1959					
January	32,678	21,217	52,979	39,815	13,164
February	29,373	19,020	48,293	35,775	12,518
March	27,864	19,567	47,431	36,124	11,307
April	32,742	22,782	55,525	43,015	12,509
May	28,421	19,199	47,620	33,367	14,253
June	35,009	21,103	56,112	44,761	11,351
July	24,714	19,858	44,572	32,034	12,538

* Includes copper sulphate effective October, 1954.

U. K. Virgin Copper Stocks

(In long tons)

(British Bureau of Non-Ferrous Metal Statistics)

At start of:	1957	1958	1959
Jan.	59,614	91,477	64,184
Feb.	59,203	82,483	65,941
Mar.	62,120	89,147	65,875
Apr.	61,779	94,330	72,946
May	71,101	88,582	72,318
June	61,991	88,913	78,505
July	64,121	81,851	80,477
Aug.	81,146	84,756	81,986
Sept.	98,595	89,899	....
Oct.	100,815	85,092	....
Nov.	90,877	74,686	....
Dec.	81,657	69,023	....

U. K. Refined Lead Stocks

(British Bureau of Non-Ferrous Metal Statistics)

(In long tons)

At start of:	1957	1958	1959
Jan.	39,420	51,295	45,444
Feb.	41,433	49,134	48,102
Mar.	36,900	47,738	40,535
Apr.	34,877	40,547	53,289
May	44,933	37,509	62,286
June	40,804	34,608	63,135
July	42,148	40,518	57,810
Aug.	48,275	37,148	67,586
Sept.	51,435	43,758	....
Oct.	45,301	48,856	....
Nov.	50,371	40,216	....
Dec.	48,065	35,335	....

Zinc Imports and Exports By Principal Countries

(A.B.M.S.)

Reported in pigs, bars, etc.; except where otherwise noted.

	1959 Apr.	1959 May	1959 June
IMPORTS			
U. S. (s.t.)	6,505	17,151	17,744
Denmark	928	1,108	1,254
France	1,451	1,160	1,573
Germany, (W.)*	7,638	5,797	...
Italy	530	..	...
Netherlands	1,255	1,253	817
Sweden	2,006	2,725	...
Switzerland*	1,008	864	1,657
U. K. (l.t.)	14,984	12,764	...
India† (l.t.)	3,972	4,446	4,528
EXPORTS			
U. S. (s.t.)	350	124	151
Canada (s.t.)	7,690	20,647	16,878
Denmark	207	139	58
France	...	521	271
Germany, (W.)*	1,743	2,035	...
Italy	1,137	...	...
Netherlands	1,126	931	1,776
Norway	3,012	...	...
Switzerland*	536	686	392
U. K.** (l.t.)	505	616	...
Northern Rhodesia† (l.t.)	2,452	2,533	2,937
Australia (l.t.)	4,588	5,175	2,997

* Includes scrap.

** Includes manufactures.

† British Bureau of Non-Ferrous Metal Statistics.

United Kingdom Tin Statistics

(British Bureau of Non-Ferrous Metal Statistics)

	Tin Content of Tin in Ore: Imports	Production*	Stock at end of period*	Tin Metal: Imports	Production*	Consumption	Exports & Re-exports	Stock at end of period
1957 Total	39,272	1,028	....	9,834	34,175	20,365	7,362	71,931
1958								
July	2,007	107	2,020	329	2,904	1,656	478	20,880
August	2,235	44	2,063	1,525	2,423	1,412	912	19,676
September	1,743	99	1,564	1,141	2,579	1,784	988	19,942
October	1,913	91	1,419	145	2,488	2,072	882	20,135
November	1,971	96	1,770	851	2,187	1,795	594	19,285
December	2,757	90	2,299	317	2,350	1,802	1,770	19,054
1958 Total	27,419	1,090	....	13,195	32,551	20,413	20,398	19,054
1959								
January	1,337	113	1,095	324	2,925	1,769	2,381	16,744
February	1,817	115	1,300	230	1,677	1,614	4,153	14,715
March	1,545	90	1,595	42	1,572	1,773	2,653	13,264
April	1,743	103	1,798	32	1,636	1,745	3,326	10,685
May	1,493	....	1,575	28	1,808	1,686	2,421	9,445
June	1,323	....	....	25	2,267	1,987	2,919	9,638

*As reported by International Tin Study Group. Production of Tin Metal includes production from imported scrap and residues refined on toll. Stocks exclude strategic stock but include official warehouse stocks.

Canada's Copper Output

(Dominion Bureau of Statistics)

(Refined Copper)

(In Tons)

	1956	1957	1958	1959
Jan.	26,653	25,469	32,868	24,664
Feb.	26,229	21,861	28,668	28,016
Mar.	26,750	27,663	29,239	32,427
Apr.	26,617	27,398	30,635	32,130
May	27,626	29,086	32,471	32,622
June	27,122	24,093	32,418	33,596
July	27,250	27,195	31,131	....
Aug.	29,219	26,943	30,867	....
Sept.	27,950	24,633	27,546	....
Oct.	29,696	30,312	22,572	....
Nov.	27,346	27,331	20,368	....
Dec.	28,716	31,604	19,033	....
Year	331,174	323,588	346,816	....

Canada's Copper Exports

(Dominion Bureau of Statistics)

(Ingots, bars, slabs and billets)

(In Tons)

	1956	1957	1958	1959
Jan.	15,981	20,582	26,883	10,620
Feb.	11,041	16,272	16,816	10,304
Mar.	12,276	14,270	18,662	11,025
Apr.	14,476	16,417	23,261	17,079
May	12,851	19,048	19,358	21,739
June	10,985	10,826	20,831	21,310
July	13,599	18,621	21,703	....
Aug.	14,710	21,980	15,881	....
Sept.	17,268	14,314	15,373	....
Oct.	13,896	13,110	20,341	....
Nov.	19,130	16,622	14,391	....
Dec.	18,630	16,282	11,138	....
Year	174,843	198,794	224,638	....

Canada's Lead Output

(Dominion Bureau of Statistics)

(Recoverable Lead)*

(In Tons)

	1956	1957	1958	1959
Jan.	16,002	14,032	17,117	17,118
Feb.	14,344	15,170	14,908	15,923
Mar.	16,857	16,940	15,421	17,389
Apr.	11,573	14,275	15,644	16,237
May	15,446	14,591	15,131	16,813
June	18,145	16,431	15,645	14,968
July	15,841	14,377	14,076	....
Aug.	16,104	14,679	12,260	....
Sept.	15,760	15,869	15,401	....
Oct.	16,725	14,151	14,564	....
Nov.	14,865	15,879	16,680	....
Dec.	16,056	15,296	18,248	....
Year	188,971	171,690	185,095	....

* New base bullion from Canadian ores plus recoverable lead in ores or concentrates shipped for export.

Canada's Lead Exports

(Dominion Bureau of Statistics)

(In Pigs)

(In Tons)

	1956	1957	1958	1959
Jan.	4,888	8,946	4,752	5,034
Feb.	3,856	6,633	1,553	6,377
Mar.	4,007	7,044	9,497	11,831
Apr.	7,636	7,314	7,450	7,836
May	7,214	9,676	7,764	12,230
June	6,632	7,210	4,036	15,610
July	9,696	4,682	12,629	....
Aug.	4,713	6,416	7,232	....
Sept.	9,908	8,467	5,125	....
Oct.	9,072	7,761	10,320	....
Nov.	9,227	6,175	10,641	....
Dec.	2,734	4,217	11,352	....
Year	79,633	84,541	92,351	....

Canada's Zinc Output

(Dominion Bureau of Statistics)

(Refined Zinc)

(In Tons)

	1956	1957	1958	1959
Jan.	21,696	20,340	21,801	21,456
Feb.	20,356	19,808	19,743	19,709
Mar.	22,010	21,941	22,314	22,135
Apr.	21,339	20,504	20,989	21,512
May	21,790	20,564	21,269	21,147
June	20,780	19,928	20,353	21,250
July	21,691	20,061	20,873	....
Aug.	21,354	20,305	21,152	....
Sept.	20,691	20,247	20,530	....
Oct.	21,412	20,892	21,125	....
Nov.	20,470	20,933	20,273	....
Dec.	22,012	21,823	21,705	....
Year	255,607	247,351	252,157	....

Canada's Zinc Exports

(Dominion Bureau of Statistics)

(Slabs in Tons)

	1956	1957	1958	1959
Jan.	15,550	19,304	17,349	13,565
Feb.	11,757	16,618	8,376	12,675
Mar.	8,822	14,923	19,636	14,617
Apr.	14,317	17,131	16,346	12,789
May	11,357	16,680	15,121	11,049
June	15,296	16,157	7,776	20,298
July	15,499	12,912	27,394	....
Aug.	13,070	20,520	15,906	....
Sept.	19,732	17,671	8,670	....
Oct.	20,792	16,735	22,810	....
Nov.	21,411	17,225	17,978	....
Dec.	16,125	16,131	18,344	....
Year	183,728	202,007	195,707	....

Canada's Silver Exports

(Dominion Bureau of Statistics)

(In ores and concentrates)

(Fine Ounces)

	1957	1958	1959
Jan.	253,940	634,715	185,367
Feb.	380,463	208,149	329,742
Mar.	521,849	350,827	425,973
Apr.	431,646	284,971	989,593
May	523,228	376,082	564,017
June	468,559	438,253	871,570
July	844,545	529,770	.....
Aug.	811,530	279,511	.....
Sept.	861,857	583,570	.....
Oct.	432,000	323,475	.....
Nov.	263,273	217,892	.....
Dec.	186,569	871,573	.....
Year	5,979,459	5,098,788	.....

Canada's Silver Output

(Dominion Bureau of Statistics)

(In Ounces)

	1957	1958	1959
Jan.	2,158,631	2,529,583	3,094,440
Feb.	2,051,679	2,294,655	2,264,903
Mar.	2,346,316	2,448,698	2,782,307
Apr.	2,225,638	2,558,958	2,691,503
May	2,111,185	2,650,665	2,499,149
June	2,208,584	2,527,632	2,668,040
July	2,383,390	2,385,687	.....
Aug.	2,592,468	2,884,154	.....
Sept.	2,382,121	2,856,304	.....
Oct.	2,817,358	2,390,027	.....
Nov.	2,566,519	2,643,790	.....
Dec.	2,537,984	2,917,528	.....
Year	28,361,873	31,087,681	.....

Canada's Nickel Output

(Dominion Bureau of Statistics)

(In Tons)

	1956	1957	1958	1959
Jan.	14,985	16,609	16,710	8,047
Feb.	14,997	15,027	15,896	12,616
Mar.	15,504	16,733	15,853	14,922
Apr.	14,431	15,347	15,163	15,493
May	15,203	16,225	15,231	16,622
June	14,492	15,447	14,603	16,599
July	15,125	15,878	12,851	....
Aug.	14,852	16,756	12,597	....
Sept.	14,530	15,604	11,786	....
Oct.	15,762	15,628	3,682	....
Nov.	15,062	14,587	3,178	....
Dec.	14,824	15,096	3,298	....
Year	178,767	188,962	140,842	....

Canadian Copper Exports

(Dominion Bureau of Statistics)

(In tons of 2,000 lbs.)

	1959		
	May	June	July
Ore, matte, regulus, etc. (content)	1,315	3,580	2,949
United States	91	971	1,697
Belgium	...	126	61
Germany (W.)	...	46	54
Norway	1,094	1,821	737
United Kingdom	130	71	106
Japan	...	545	294
Ingots, bars, billets, anodes	21,738	21,310	13,650
United States	8,195	10,055	3,928
Belgium	...	276	672
France	1,129	1,348	448
Germany (W.)	952	1,030	392
Greece	112	56	56
Italy	112	...	84
Netherlands	...	112	...
Portugal	56	55	...
Sweden	...	224	...
United Kingdom	10,176	6,430	7,332
Australia	...	280	...
India	1,003	1,164	738
Pakistan	...	280	...
Other countries	3	...	...
Total Exports:			
Crude & refined	23,053	24,890	16,599
Old and scrap	342	244	414
Rods, strips, sheet & tubing	2,010	1,592	927

Canadian Zinc Exports

(Dominion Bureau of Statistics)

(In tons of 2,000 lbs.)

	1959		
	May	June	July
Ore (zinc content)	11,049	20,298	23,121
United States	11,049	18,511	12,723
Belgium	...	1,787	...
Germany (W.)	...	...	1,233
Norway	...	...	6,792
United Knigdom	...	..	2,373
Slab zinc	20,647	16,878	16,237
United States	7,955	9,412	8,870
Brazil	46	15	...
Chile	55	...	...
Germany (W.)	112	56	...
Netherlands	392	336	...
United Kingdom	11,896	6,452	6,620
Korea	53	573	714
Taiwan	138	...	...
Other countries	...	34	33
Total Exports:			
Ore and slabs	31,696	37,176	39,358
Zinc scrap, dross, ashes	369	864	475
United States	50	81	144
Belgium	319	724	174
Netherlands	...	59	157

French Copper Imports

(A. B. M. S.)

(In metric tons)

	1959		
	May	June	July
Crude copper for refining (blister, black and cement)	...	406	406
Belgian Congo	...	406	406
Refined	13,975	11,462	14,613
United States	5,997	1,421	1,467
Canada	805	1,267	2,032
Chile	51	980	1,500
Belgium	3,661	3,542	4,733
Germany (W.)	213	...	213
Norway	178	178	178
Sweden	...	...	50
Belgian Congo	1,059	2,529	2,767
Rhodesia-Nyasaland	2,011	1,545	1,673

Canadian Lead Exports

(Dominion Bureau of Statistics)

(In tons of 2,000 lbs.)

	1959		
	May	June	July
Ore (lead content)	1,554	14,539	5,378
United States	1,554	3,069	2,523
Belgium	...	2,999	1,446
Germany (W.)	...	8,471	1,409
Refined lead	12,230	15,610	3,478
United States	5,579	10,500	2,281
Brazil	70	...	...
Uruguay	...	194	65
Netherlands	112	...	...
United Kingdom	6,372	4,857	1,019
Taiwan	36	...	...
Korea	...	...	110
Other countries	61	59	3
Total Exports:			
Ore & Refined	13,784	30,149	8,856
Lead scrap	241	319	276

Copper Imports and Exports By Principal Countries

(A.B.M.S.)

Reported in ingots, slabs, etc.; except where otherwise noted.

	1959		
	Apr.	May	June
IMPORTS			
U. S. (blist., s.t.)	20,678	18,879	27,757
(ore, etc., s.t.)	4,624	3,974	12,112
(ref., s.t.)	5,027	11,777	19,320
Denmark	311	305	291
France (crude)	813	...	406
(refined)	21,455	13,975	11,462
Italy	10,523	...	...
Germany, (W.)	27,558	32,438	...
Netherlands	2,576	1,512	2,794
Norway	666	...	...
Sweden	3,661	5,161	...
Switzerland	4,555	1,618	2,711
U. K. (l.t.)	36,627	37,171	...
India blister/-ref., l.t.)†	5,375	2,342	1,970
EXPORTS			
U. S. (ore and unref., s.t.)	38	456	37
(refined, s.t.)	20,571	15,301	12,607
Canada (refined, s.t.)	17,079	21,738	21,310
Finland††	1,064	813	...
Germany, (W.)	5,809	6,807	...
Norway	2,334	...	...
Sweden	1,057	1,668	...
U. K. (l.t.)	5,002	4,248	...
Turkey*	500	...	...
No. Rhodesia (blister & ref., l.t.)†	41,647	50,542	43,092

* Includes alloys.

†† Includes old.

† British Bureau of Non-Ferrous Metal Statistics.

Canada's Nickel Exports

(Dominion Bureau of Statistics)

(Refined, in oxides, matte, etc.)

(In Tons)

	1957	1958	1959
January	14,260	14,283	6,757
February	9,974	12,157	7,976
March	14,958	12,316	14,006
April	18,671	20,962	14,213
May	18,351	20,574	16,142
June	14,539	16,144	15,901
July	14,181	14,055	.....
August	14,966	13,012	.....
September	14,160	14,371	.....
October	13,370	8,335	.....
November	16,620	3,001	.....
December	14,606	5,060	.....
Year	178,656	154,220	.....

French Zinc Imports

(A. B. M. S.)

(In metric tons)

	1959		
	May	June	July
Ore (gross weight)	18,022	19,278	23,798
Belgium	2,308	75	...
Finland	...	...	1,130
Greece	1,712	...	2,934
Italy	1,892	6,264	150
Norway	...	...	1,378
Sweden	...	...	850
Yugoslavia	1,100	...	2,015
Algeria	630	10,217	5,105
Morocco	10,380	2,722	5,942
Tunisia	...	...	2,075
Belgian Congo	...	...	2,219
Slabs, bars, blocks, etc.	1,160	1,573	1,537
Belgium	620	1,339	1,155
Italy	528	223	142
Netherlands	...	...	240
Algeria	12	11	...

French Metal Exports

(A. B. M. S.)

(In metric tons)

	1959		
	May	June	July
LEAD			
Ore (gr. wt.)	268	220	84
Pig lead	444	1,109	684
United States	...	...	195
Uruguay	71	78	...
Denmark	203	203	203
Germany (W.)	170	500	...
Switzerland	...	295	260
Other countries	...	33	26
Antimonial lead	160	59	52
ZINC			
Slabs, bars, blocks, etc.	521	271	83
COPPER			
Crude copper for refining (blister, black and cement)	..	258	256

U. K. Copper Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

	1959		
	May	June	July
(Gross Weight)			
Copper and copper alloys	37,171	38,382	32,958
U. of S. Africa	2,287	12	...
Rhodesia-Nyasaland	19,269	20,367	15,442
Canada	7,042	6,857	7,212
Belgium	8	5	9
Germany (W.)	19	28	25
Norway	200	61	200
Sweden	...	9	...
United States	1,875	2,541	772
Chile	5,951	8,223	9,000
Belgian Congo	500	250	250
Other countries	20	29	48
Of which:			
Electrolytic	23,400	24,789	18,916
Other refined	5,288	3,437	4,925
Blister or rough	8,161	9,716	8,706
Wrought and alloys	322	440	411
Total	37,171	38,382	32,958

Nonferrous Castings

MONTHLY SHIPMENTS, BY TYPE OF METAL
(Bureau of Census — Thousands of Pounds)

	Aluminum	Copper	Magnesium	Zinc	Lead Die
1954 Total	607,764	834,557	25,572	474,741	18,396
1955 Total	833,058	1,011,748	27,892	781,254	21,045
1956 Total	801,136	966,473	36,168	88,069	20,734
1957 Total	751,856	875,389	30,322	663,330	23,791
1958					
January	57,845	69,707	1,881	50,658	1,566
February	50,695	58,356	1,803	42,687	1,294
March	50,547	60,157	1,975	39,719	1,630
April	44,948	59,311	2,215	35,796	1,467
May	44,093	57,506	2,422	36,447	1,655
June	40,701	57,124	2,205	38,132	1,971
July	38,818	51,124	2,200	32,765	1,394
August	45,034	57,790	1,869	35,860	1,804
September	52,796	64,447	2,804	47,127	1,725
October	55,699	74,012	2,627	45,045	1,708
November	55,793	62,476	2,615	48,431	1,409
December	59,487	67,905	2,612	55,600	1,497
Total	596,816	739,915	27,228	508,297	18,920
1959					
January	62,927	66,874	2,151	53,347	1,571
February	62,486	69,589	2,162	48,779	1,285
March	73,351	78,641	2,129	57,600	1,765
April	72,976	82,799	2,455	57,325	1,862
May	68,268	78,413	2,370	60,656	2,025
June	66,479	79,366	2,484	56,128	2,007

Copper Castings Shipments

BY TYPE OF CASTING
(Bureau of Census) (Thousands of Pounds)

	Total	Sand	Permanent Mold	Die	All Other
1952 Total	1,009,910	910,862	63,865	8,259	26,924
1953 Total	990,496	888,369	61,316	10,077	30,734
1954 Total	834,557	751,804	48,849	6,480	27,394
1955 Total	1,011,748	907,852	63,041	8,541	31,408
1956 Total	966,113	866,404	57,522	10,023	32,134
1957					
Nov.	70,187	63,944	3,006	862	2,375
Dec.	65,708	59,606	3,046	888	2,168
Total	875,389	789,819	44,746	10,776	30,048
1958					
January	69,707	63,294	3,327	894	2,192
February	58,356	52,579	3,202	796	1,779
March	60,157	54,007	3,395	823	1,932
April	59,311	53,271	3,385	949	1,705
May	57,506	51,634	3,077	891	1,904
June	57,124	51,967	3,001	839	1,317
July	51,124	46,636	2,351	792	1,345
August	57,590	52,981	2,425	682	1,702
September	64,447	58,435	2,888	876	2,248
October	74,012	67,564	3,239	790	2,419
November	62,746	57,386	2,604	810	1,946
December	67,905	61,119	3,535	1,059	2,192
Total	739,985	667,255	36,529	10,201	22,681
1959					
January	66,874	59,856	3,572	1,216	2,230
February	66,589	62,593	3,557	1,176	2,263
March	78,641	69,472	4,333	1,361	3,475
April	82,799	73,567	4,640	1,328	3,264
May	78,413	69,351	4,363	1,291	3,408
June	79,366	70,512	4,421	1,135	3,298

Nickel Averages

Electro, cathode sheets, 99.00%, f.o.b. refinery, duty included
(Cents per pound)

	1956	1957	1958	1959
Jan.	64.50	74.00	74.00	74.00
Feb.	64.50	74.00	74.00	74.00
Mar.	64.50	74.00	74.00	74.00
Apr.	64.50	74.00	74.00	74.00
May	64.50	74.00	74.00	74.00
June	64.50	74.00	74.00	74.00
July	64.50	74.00	74.00	74.00
Aug.	64.50	74.00	74.00	....
Sept.	64.50	74.00	74.00	....
Oct.	64.50	74.00	74.00	....
Nov.	64.50	74.00	74.00	....
Dec.	72.48	74.00	74.00	....
Aver.	65.165	74.00	74.00	....

Platinum Averages

N. Y. MONTHLY QUOTATIONS
(Dollars per Troy Ounce)

	1956	1957	1958	1959
Jan.	106.30	101.92	77.85	52.57
Feb.	104.34	98.59	74.82	59.25
Mar.	104.23	93.50	72.096	77.10
Apr.	103.92	93.45	70.72	77.18
May	105.23	92.865	67.34	77.50
June	106.50	92.02	66.18	77.50
July	106.50	90.265	64.35	78.00
Aug.	105.76	84.426	60.94	....
Sept.	105.50	84.00	59.60	....
Oct.	104.85	84.00	57.327	....
Nov.	104.50	83.80	56.41	....
Dec.	104.50	78.70	53.154	....
Aver.	105.18	89.79	65.07	....

Spot Straits Tin

(Straits, Open Market, N. Y.)
Monthly Average Prices

	1956	1957	1958	1959
Jan.	105.036	101.511	92.94	99.411
Feb.	100.803	101.132	93.915	102.785
Mar.	100.786	99.643	94.452	103.042
Apr.	92.268	99.304	92.988	102.505
May	96.994	93.347	94.512	103.125
June	94.589	98.05	94.708	104.25
July	96.143	96.52	94.892	102.237
Aug.	99.049	94.261	94.988	....
Sept.	103.809	93.406	94.101	....
Oct.	106.023	91.838	96.523	....
Nov.	110.921	89.236	99.118	....
Dec.	104.268	92.35	98.989	....
Aver.	101.475	96.301	95.177	....

Prompt Tin Prices

(Straits, Open Market, N. Y.)
Monthly Average Prices
(Cents per Pound)

	1956	1957	1958	1959
Jan.	104.768	101.347	92.653	99.351
Feb.	100.586	100.257	93.763	102.708
Mar.	100.524	99.476	94.363	103.042
Apr.	99.145	99.286	92.988	102.505
May	96.853	98.335	94.512	103.107
June	94.488	98.025	94.619	104.142
July	96.131	96.44	94.892	102.337
Aug.	98.924	94.159	94.976	....
Sept.	103.559	93.313	94.054	....
Oct.	105.716	91.848	96.455	....
Nov.	110.329	89.236	98.985	....
Dec.	104.00	92.34	98.96	....
Aver.	101.252	93.672	95.069	....

Quicksilver Averages

N. Y. Monthly Averages
Virgin, Dollars per 76-lb Flask

	1956	1957	1958	1959
Jan.	277.80	256.00	224.35	219.50
Feb.	270.29	256.00	229.39	219.50
Mar.	261.40	256.00	232.096	223.57
Apr.	267.22	256.00	233.06	239.52
May	267.675	256.00	229.48	245.86
June	260.69	256.00	229.00	241.64
July	256.06	256.00	230.25	236.74
Aug.	256.00	252.20	240.27	....
Sept.	256.00	248.58	241.12	....
Oct.	255.92	234.48	235.94	....
Nov.	255.13	228.33	230.05	....
Dec.	256.00	226.50	223.54	....
Aver.	261.71	248.51	230.96	....

Primary Aluminum Output, Shipments and Stocks

(U. S. Department of Interior)

	Stocks beginning of month short tons	Production short tons	Sold or Used— Short tons	Value f. o. b. plant	Stocks end of month short tons
1957					
Total	....	1,647,714	1,579,035	.....	.....
1958					
June	183,557	115,326	130,787	63,091,679	168,096
July	168,096	118,541	134,083	64,726,335	152,554
August	152,554	125,416	132,765	64,611,494	145,205
September	145,205	124,714	146,870	71,641,275	125,049
October	124,274	139,836	139,908	68,881,146	124,202
November	124,202	140,962	126,619	62,133,129	138,545
December	138,545	152,201	145,125	70,946,494	145,721
Total	....	1,565,556	1,595,067	.....	.....
1959					
January	146,086	156,700	127,678	$62,375,824	175,108
February	175,108	142,116	133,397	65,668,578	183,827
March	183,827	157,189	181,839	82,304,609	159,177
April	159,177	155,213	182,930	90,070,280	131,460
May	131,460	163,857	182,607	89,672,327	112,710
June	112,710	167,323	191,421	93,955,552	88,612

Aluminum Wrought Products

PRODUCERS' MONTHLY NET SHIPMENTS

(Bureau of Census — Thousands of Pounds)

	Total	Sheet, Plate, Foil, Rod & Bar	Wire & Cable	Extruded Shapes & Tubing	Powder & Paste
1955 Total	2,805,500	1,542,368	365,391	812,311	35,854
1956 Total	2,870,101	1,577,601	398,602	782,398	28,017
1957					
Total	2,677,423	1,396,502	399,040	789,430	28,187
1958					
January	193,678	108,616	21,915	57,188	1,538
February	207,459	118,835	21,983	58,296	1,927
March	190,092	108,913	20,692	55,973	1,533
April	210,477	118,793	22,178	62,737	1,954
May	217,299	115,660	27,361	67,376	2,389
June	228,587	118,767	28,674	74,580	2,248
July	229,654	126,160	24,678	72,194	2,642
August	213,548	115,376	23,581	67,953	3,154
September	231,168	125,937	23,287	75,269	2,665
October	254,023	128,967	24,442	85,038	2,163
November	216,249	121,190	17,771	71,666	1,723
December	235,377	130,474	26,253	72,979	1,806
Total	2,624,911	1,441,385	285,355	821,249	25,742
1959					
January	235,463	132,361	26,480	70,309	2,246
February	230,733	131,564	21,740	71,364	2,028
March	271,642	161,285	21,940	81,276	2,578
April	293,554	166,942	25,468	93,475	3,178
May	320,786	184,664	28,532	99,308	3,641
June	341,245	195,476	30,156	107,038	3,901

Aluminum Castings Shipments

(Bureau of Census)

BY TYPE OF CASTING

(Thousands of Pounds)

	Total	Sand	Permanent Mold	Die	All Other
1954 Total	609,066	155,738	213,968	232,726	6,800
1955 Total	833,058	171,757	298,115	354,804	8,282
1956 Total	801,036	171,763	245,421	376,108	7,736
1957 Total	751,656	144,121	232,326	369,086	...
1958					
March	50,547	9,311	15,255	25,918	...
April	44,948	9,531	13,369	21,956	...
May	44,093	9,312	13,648	21,091	...
June	40,701	8,644	13,679	18,292	...
July	38,818	8,658	12,342	17,714	...
August	45,034	9,034	14,426	21,505	...
September	52,796	10,261	16,241	26,254	...
October	55,699	10,932	17,189	27,511	...
November	55,793	10,539	16,942	28,264	...
December	59,487	10,874	18,970	29,579	...
Total	596,790	117,421	186,949	292,599	...
1959					
January	62,927	10,907	20,606	21,349	...
February	62,846	10,627	21,127	31,021	...
March	73,351	12,412	26,964	33,949	...
April	72,976	12,700	26,153	33,992	...
May	68,268	11,979	25,283	30,877	...
June	66,479	12,312	24,927	29,092	...

Virgin Aluminum

Ingot (30 lb.) 99½% Plus, Delivered

Monthly Average Prices

(Cents per pound)

	1956	1957	1958	1959
Jan.	24.40	27.10	28.10	26.80
Feb.	24.40	27.10	28.10	26.80
Mar.	24.60	27.10	28.10	26.80
Apr.	25.90	27.10	26.10	26.80
May	25.90	27.10	26.10	26.80
June	25.90	27.10	26.10	26.80
July	25.90	27.10	26.10	26.80
Aug.	26.70	28.10	26.77	....
Sept.	27.10	28.10	26.80	....
Oct.	27.10	28.10	26.80	....
Nov.	27.10	28.10	26.80	....
Dec.	27.10	28.10	26.80	....
Aver.	26.008	27.517	26.889	....

Magnesium Wrought Products Shipments

(Bureau of Census)

(Thousands of Pounds)

	1956	1957	1958	1959
Jan.	2,188	2,130	1,271	1,271
Feb.	1,901	2,522	1,280	1,691
Mar.	1,946	2,388	1,398	1,717
Apr.	2,279	2,511	1,479	2,089
May	2,462	2,230	1,443	1,644
June	2,302	1,881	1,709	1,946
July	2,002	1,428	1,227	....
Aug.	2,523	1,540	1,823	....
Sept.	2,031	1,501	1,807	....
Oct.	861	1,453	1,983	....
Nov.	2,141	1,230	1,662	....
Dec.	2,452	1,102	1,622	....
Total	24,975	21,915	18,702	....

Cadmium Averages

N. Y. Monthly Averages

Cents per lb. in ton lots

	1956	1957	1958	1959
Jan.	170.00	170.00	155.00	145.00
Feb.	170.00	170.00	155.00	145.00
Mar.	170.00	170.00	155.00	145.00
Apr.	170.00	170.00	155.00	120.00
May	170.00	170.00	155.00	120.00
June	170.00	170.00	155.00	120.00
July	170.00	170.00	155.00	120.00
Aug.	170.00	170.00	155.00	....
Sept.	170.00	170.00	152.60	....
Oct.	170.00	170.00	145.00	....
Nov.	170.00	170.00	145.00	....
Dec.	170.00	166.40	145.00	....
Aver.	170.00	169.70	152.30	....

Steel Ingot Production

(American Iron and Steel Institute)

Period	Estimated Production — All Companies OPEN HEARTH Net tons	% of capacity	BESSEMER Net tons	% of capacity	ELECTRIC Net tons	% of capacity	TOTAL Net tons	% of capacity	Calculated weekly production, all companies (net tons)
1954 Total	80,327,494	73.6	2,548,104	53.2	5,436,054	52.0	88,311,652	71.0	1,693,741
1956 Total	102,840,585	91.6	3,227,997	67.4	9,147,567	81.2	115,216,149	89.8	2,203,828
1957 Total	101,657,776	87.0	2,475,138	54.9	8,582,082	71.3	112,714,996	84.5	2,161,776
1958									
January	6,085,124	58.6	121,338	35.5	547,450	44.8	6,753,912	56.1	1,524,585
February	5,252,112	56.0	81,597	26.4	448,614	40.6	5,782,373	53.6	1,445,581
March	5,598,944	53.9	122,317	35.7	533,361	43.6	6,254,622	52.3	1,412,000
April	4,875,619	48.5	109,433	33.1	547,939	46.3	5,532,991	47.8	1,289,741
May	5,602,123	53.7	110,366	32.3	588,670	48.2	6,301,159	52.7	1,422,884
June	6,378,942	63.4	88,125	26.6	660,413	55.8	7,127,480	61.6	1,661,417
July	6,712,587	55.0	114,218	33.4	593,600	48.6	6,420,405	53.7	1,452,580
August	6,481,815	62.4	134,135	39.3	670,383	54.8	7,286,003	61	1,644,696
September	6,769,660	67.3	103,194	31.2	737,518	62.3	7,610,372	65.8	1,778,124
October	7,795,541	75.0	148,458	43.4	873,779	71.5	8,817,278	73.8	1,990,469
November	7,572,555	75.3	145,867	44.1	850,896	71.9	8,569,318	74.1	1,997,510
December	7,764,000	74.7	117,000	34.2	832,000	68.1	8,793,000	72.9	1,971,000
Total	75,883,392	62.0	1,396,348	34.7	7,972,623	55.4	85,257,363	69.6	1,636,162
1959									
January	8,280,985	77.1	120,005	39.5	729,675	63.7	9,317,385	74.3	2,103,247
February	8,540,000	88.0	129,000	47.0	757,000	73.1	9,603,000	84.8	2,401,000
March	10,216,474	95.1	184,892	60.9	929,784	81.1	11,567,745	92.3	2,611,229
April	9,884,332	95.0	196,000	66.2	964,850	87.0	11,281,920	93.0	2,629,818
May	10,117,968	94.2	200,887	66.1	1,024,401	89.4	11,600,581	92.5	2,618,441
June	9,521,053	91.6	185,794	63.2	941,056	84.8	10,907,634	89.9	2,542,572
July	4,540,182	42.2	66,433	21.7	526,025	45.9	5,227,129	41.7	1,182,608
August	1,169,000	10.9	.....	...	269,000	23.5	1,438,000	11.5	325,000

Blast Furnace Output

(American Iron and Steel Institute)

	net tons Pig Iron	Ferro-manganese & Spiegel	Total	% Capacity
1950				
Tot. Yr.	64,810,272	670,896	65,484,168	91.6
1951				
Tot. Yr.	70,457,880	745,881	71,203,761	98.8
1952				
Tot. Yr.	61,880,668	620,936	62,188,691	84.3
1953				
Total	74,927,721	885,038	75,842,789	96.5
1954				
Total	68,119,822	668,766	68,688,117	71.6
1955				
Total	77,114,978	668,766	77,980,881	92.7
1956				
Dec.	7,268,743	65,841	7,334,584	101.8
Total	75,301,134	664,341	75,965,475	83.9
1957				
Jan.	7,209,547	72,826	7,282,373	98.8
Feb.	6,596,133	61,973	6,658,106	100.0
Mar.	7,179,100	67,779	7,246,879	98.3
Apr.	6,810,102	60,784	6,870,886	96.3
May	6,879,881	65,566	6,945,447	94.2
June	6,593,326	66,266	6,659,592	93.3
July	6,625,901	66,031	6,691,932	90.8
Aug.	6,719,763	61,968	6,781,751	92.0
Sept.	6,569,074	58,837	6,627,911	92.9
Oct.	6,454,450	65,028	6,519,478	88.4
Nov.	5,711,242	68,637	5,779,879	81.0
Dec.	5,212,624	69,175	4,854,444	62.8
Total	78,557,011	782,660	79,339,671	91.4
1958				
Jan.	4,785,269	69,175	4,854,444	62.8
Feb.	4,016,276	47,953	4,064,229	58.2
Mar.	4,418,778	45,175	4,463,953	57.8
April	3,787,907	39,302	3,827,209	51.2
May	4,048,328	25,468	4,073,796	52.7
June	4,396,285	26,463	4,422,748	59.1
July	4,277,515	26,668	4,304,183	55.7
Aug.	4,799,955	31,374	4,831,329	62.1
Sept.	5,041,042	31,348	5,072,390	67.8
Oct.	5,835,995	36,963	5,872,958	76.0
Nov.	5,907,888	39,275	5,946,163	79.5
Dec.	6,025,385	47,506	6,072,890	78.6
Total	57,298,644	465,456	57,298,644	63.5
1959				
Jan.	6,260,395	48,572	6,211,823	77.9
Feb.	6,047,398	45,274	6,192,672	85.3
March	7,461,760	48,291	7,510,051	93.4
April	7,338,372	54,234	7,392,606	95.0
May	7,683,759	64,237	7,747,996	96.4
June	7,231,631	58,315	7,289,946	93.7
July	3,550,159	23,391	3,573,550	44.5

Steel Castings Shipments

(Bureau of Census)

	(Short Tons) Total	For Sale	For Own Use
1951	2,101,604	1,507,413	594,191
1952	1,925,116	1,476,352	448,767
1953	1,829,277	1,290,016	431,330
1954			
Total	1,184,096	880,158	303,938
1955			
Total	1,530,694	1,166,706	363,988
1956			
Total	1,931,987	1,512,290	416,697
1957			
May	164,575	125,431	39,144
June	153,647	119,353	34,294
July	122,018	90,037	31,981
Aug.	145,926	111,080	34,846
Sept.	139,002	105,611	33,391
Oct.	146,397	113,216	33,181
Nov.	127,115	98,436	28,679
Dec.	120,787	92,125	28,662
Total	1,766,191	1,261,301	406,444
1958			
Jan.	120,722	94,717	26,005
Feb.	103,297	79,708	23,589
Mar.	106,233	82,195	24,038
Apr.	91,464	69,121	22,343
May	87,002	66,086	20,916
June	92,681	71,624	21,237
July	68,802	48,618	10,184
Aug.	80,886	59,816	21,070
Sept.	85,277	64,586	20,691
Oct.	95,389	73,367	22,022
Nov.	85,267	65,788	19,479
Dec.	103,800	81,360	22,440
Total	1,114,939	859,125	255,814
1959			
Jan.	105,392	82,693	22,709
Feb.	110,280	86,013	24,267
Mar.	131,317	103,848	27,469
Apr.	134,344	104,890	29,454
May	135,359	105,804	29,555
June	111,725	31,899	143,624

Galvanized Sheet Shipments

(American Iron & Steel Institute)

(Net Tons)

	1956	1957	1958	1959
Jan.	269,464	235,902	186,649	279,244
Feb.	272,997	205,048	167,627	281,637
Mar.	291,193	206,836	195,885	311,961
Apr.	266,728	198,585	206,368	328,759
May	272,741	206,657	231,318	317,059
June	279,058	239,037	277,180	350,333
July	*	167,247	239,883	180,787
Aug.	276,048	186,790	253,263	.....
Sept.	256,803	183,952	258,723	.....
Oct.	278,637	212,886	290,157	.....
Nov.	255,135	190,380	253,909	.....
Dec.	239,173	159,363	266,472	.....
Total	2,957,991	2,392,637	2,828,848	.....

* Combined with August figures.

SHIPMENTS OF TIN-TERNEPLATE

(American Iron & Steel Institute)

(Net Tons)

	—Hot Dipped— 1958	1959	—Electrolytic— 1958	1959
Jan.	31,455	30,304	474,359	417,210
Feb.	29,451	24,602	397,861	442,625
Mar.	36,794	46,706	419,102	597,408
Apr.	43,670	54,906	468,568	689,998
May	37,628	64,110	402,521	689,064
June	42,850	62,965	429,761	673,819
July	45,481	36,381	422,776	244,719
Aug.	46,037	.....	464,439	.....
Sept.	43,217	.....	525,739	.....
Oct.	60,261	.....	763,361	.....
Nov.	14,596	.....	113,134	.....
Dec.	15,842	.....	150,942	.....
Total	447,396	.....	5,046,196	.....

Steel Ingot Operations

(Percentage of Capacity as Reported by American Iron & Steel Institute)

Week Beginning	1956	1957	1958	1959
Jan. 6	97.6	98.4	56.1	76.2
Jan. 13	98.6	96.4	57.0	73.6
Jan. 20	99.0	96.6	55.5	74.6
Jan. 27	100.4	97.6	54.0	72.6
Feb. 4	99.3	97.1	54.0	76.9
Feb. 11	99.1	97.7	53.5	83.8
Feb. 18	98.8	97.8	50.9	83.7
Feb. 25	98.8	96.0	54.6	88.5
Mar. 4	99.3	97.1	53.1	90.3
Mar. 11	100.0	93.8	52.4	92.0
Mar. 18	100.6	93.5	52.5	92.9
Mar. 25	99.5	92.4	50.6	92.9
Apr. 1	96.6	90.6	48.6	93.2
Apr. 8	97.7	90.3	48.5	93.3
Apr. 15	100.9	90.4	46.8	93.8
Apr. 22	100.2	88.7	47.9	93.5
Apr. 29	100.5	87.0	47.8	94.2
May 6	96.4	86.7	49.4	92.0
May 13	95.2	84.2	52.3	92.9
May 20	95.3	86.4	56.4	93.4
May 27	97.3	88.0	58.1	93.6
June 3	96.3	87.5	62.5	93.7
June 10	96.7	86.5	84.0	92.0
June 17	93.4	85.2	64.9	92.5
June 24	93.0	84.0	61.7	87.8
July 1	84.9	78.5	51.0	78.2
July 8	12.3	78.7	53.4	79.5
July 15	12.9	79.3	54.9	38.7
July 22	14.6	79.4	57.3	12.9
July 29	17.0	79.4	57.8	12.2
Aug. 5	16.9	79.8	58.8	11.2
Aug. 12	57.5	80.6	60.5	11.8
Aug. 19	87.5	82.1	62.6	11.3
Aug. 25	95.8	82.2	63.5	11.7
Sept. 2	97.0	81.0	61.7	11.5
Sept. 9	98.7	81.9	65.9	11.6
Sept. 16	100.6	82.1	65.6	...
Sept. 23	100.6	82.2	67.3	...
Sept. 30	101.6	82.6	70.4	...
Oct. 7	101.8	82.8	71.6	...
Oct. 14	100.9	80.9	74.2	...
Oct. 21	101.4	80.2	74.8	...
Oct. 28	101.2	79.7	75.0	...
Nov. 4	101.3	78.0	74.5	...
Nov. 11	100.6	77.7	74.5	...
Nov. 18	100.2	76.0	74.1	...
Nov. 25	100.1	72.1	73.7	...
Dec. 2	101.1	71.5	73.5	...
Dec. 9	101.3	69.2	73.5	...
Dec. 16	102.0	67.7	74.5	...
Dec. 23	94.3	53.7	74.5	...
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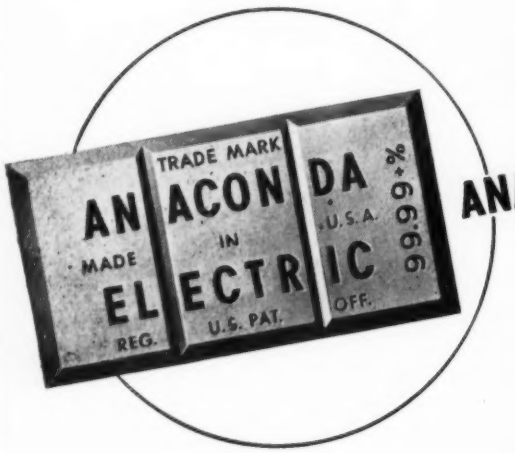

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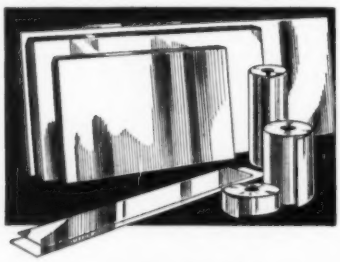

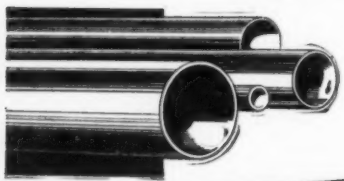

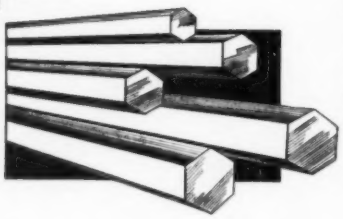

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